

तदेकोऽवशिष्टः शिवः केवलोऽहम् ।
I alone persist : Blissful : Absolute.

ॐ

सोऽहम् ।

Yoga-Mîmânsâ

EDITED BY

S'RÎMAT KUVALAYÂNANDA

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Post-Lonavla

(Bombay-India)

शरीरमाद्यं खलु धर्मसाधनम् ।

Surely Health is the primary requisite of spiritual life.

सर्वं खल्विदं ब्रह्म ।
as it is, indeeu, Brahman.

Second Impression, October, 1932.

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शिवः केवलोऽहम् ।

सोऽहम् ।

YOGA-MÎMÂÑSÂ

VOL. II

JULY, 1926

NO. 3

Editorial Notes

MAY the Maker of all make this journal a success. Blessed is the name of the Lord. May he bless the workers of the Âśrama with a happy and prosperous career as servants of the world which is only the Lord Himself objectified. May He, that has created us in His infinite wisdom, lead us to the light that is beyond all darkness.



WE are very glad to bring to the notice of our readers a letter addressed to us by Mr. Carl Veth, General Secretary of the International Organization for Psychical Research, Paris. In doing this we have two objects in view. The first object is to give the widest circulation to the wishes of Mr. Carl Veth, through our readers; and the second is to record our sense of obligation to the gentleman for using very kind expressions for our Âśrama and its work.

On the 9th of September 1927, the International Congress for Psychical Research is to meet in Paris. It is the sincere desire of the General Secretary that advanced Yogins and Spiritual Culturists of India should take an active part in this Congress. He says in his letter that the Western scientists are still in doubt about the supernatural phenomena such as *lavi-*

tation, materialization etc. ; and he further states that, in his opinion, the doubt can best be removed by a regular demonstration of these spiritual feats at the Paris Congress. He is expecting a large number of scientists to attend the Congress and if they get an opportunity to witness these spiritual performances, Mr. Carl Veth thinks, they will be convinced of the truth of psychic powers. He is, therefore, in earnest search of people from India that can be exhibited at the Congress.

We have to request our readers to appreciate this attitude of Mr. Carl Veth towards India and try their best to put him in touch with people capable of giving such performances. Whether these spiritualists are willing to be exhibited at Paris or not is immaterial. Mr. Carl Veth will try his best to get at them and do the rest. For the information of those that may want to communicate with the General Secretary, we are giving here his address.

MR. CARL VETH,

General Secretary, Society for Psychical Research,
89 Avenue Niel, PARIS XVII.

Intending correspondents are requested to write directly to Mr. Carl Veth.



WE offer our heartfelt thanks to Mr. Carl Veth for the keen interest he is taking in Indian Spiritual Culturists. Our special thanks are due to him for the kind reference he has made in his letter to our Âśrama. He says—

“During my visit in India last year, I met many of your most prominent men and obtained a very high opinion of your present work on scientific lines. As your institution, as far as I know, is the only one of the Yoga schools in India, that wants collaboration with Western scientists, I should be very pleased if you were able to send some delegates to next year's Congress in Paris.”



HOWSOEVER anxious we may have been to get into *direct* touch with the Western scholars in general and the Western scientists in particular, we are afraid, the policy of the Âśrama may not allow us to respond to this call of the General Secretary. Our institution is ever open to any student of Spiritual Culture that seeks guidance from us. But we are against any exhibition of spiritual phenomena, *unless* they are accompanied by their scientific explanations. Up to now a few psychical feats have already been exhibited in the West. But the spiritualists failed to make the *necessary* impression upon the Western scientists simply because no scientific interpretations were offered of the demonstrations given. The Western scientists in general are too busy to spare time for scanning the psychic phenomena. If they are to be attracted, their scientific instinct must be appealed to. It is for these reasons that the Âśrama wants every demonstration of Yogic feats, whether psychic or physical to be followed by their scientific explanations. The work of the Âśrama is yet in its infancy. It will take some time before we are in a position to offer scientific interpretations of the psychic phenomena. So, as we have said above, we may not be able to avail ourselves of the kind invitation of Mr. Carl Veth. Our sense of obligation for his solicitude remains the same, however.

◆ ◆ ◆

WE have great pleasure in expressing our indebtedness to Dr. A. L. Nair of Bombay for throwing open to us the use of his X-Ray department absolutely free of charge. Dr. Nair is the founder and proprietor of the famous *N. Powell & Co.* in Bombay. Instinctively pious, he is known for his large-heartedness. Dr. Nair has founded the *Bombay Buddha Society* of which he ever continues to be the very soul. He is running a big charitable hospital in the sacred memory of his worthy mother. So it is quite in keeping with his magnanimity, that Dr. Nair should have appreciated our work and given us

the facilities referred to above. The department is well equipped and is sure to be of great help to us in our research work.

OUR sense of obligation to Dr. Joshi, the X-Ray expert in charge Dr. Nair's X-Ray department, is equally great. Equipped with foreign training, Dr. Joshi is well known in this presidency for his knowledge of X-Ray. He is taking keen interest in our work and his co-operation has been a valuable asset for the Kaivalyadhâma. We offer our heartfelt thanks to both, Dr. Nair and Dr. Joshi, for all the kindness they are showing us in our work.

As announced in the last number, *Rugna-Sevâ-Mandira* or the Yogic Health Resort, started its formal work in January 1927. Patients are now accommodated in a snug and comfortable bungalow situated in a healthy locality away from the thickly populated town. We personally supervise the Sevâ-Mandira and try to give every comfort to our patients.

WE cannot close these *notes* without saying a few words about the article on 'The Rationale of Yogic Poses'. In order to make clear to our readers the general principles underlying the system of Yogic poses, it was necessary for us to take a bird's-eye view of the whole science of Yogic Physical Culture. The latter, again, had to be compared and contrasted with other systems obtaining in the same field. In instituting comparisons, we might have used words that may not be quite pleasing to the advocates of different systems. We, therefore, request our brethren not to misunderstand our statements. The criticism has been made in the interest of the culture for which they stand and has absolutely no foundation in personal prejudices. We appreciate every honest endeavour and wish it success from the bottom of our heart.

The Scientific Section

N. B.—Those of our readers that claim no acquaintance with anatomy and physiology will do well to read the Semi-Scientific Section first.

SYSTEM OF TRANSLITERATION

Letters, their sounds, and a description of these sounds :—

ॐ (ओम्)	AUM	Pronounce	'au'	like	'o'	in	'home'.
अ	A	"	'a'	"	'u'	"	'but'.
आ	Â	"	'â'	"	'a'	"	'far'.
इ	I	"	'i'	"	'i'	"	'pin'.
ई	Î	"	'î'	"	'ee'	"	'feel'.
उ	U	"	'u'	"	'u'	"	'fulsome'.
ऊ	Û	"	'û'	"	'oo'	"	'wool'.
ऋ	RI	"	'rî'	"	'rö'	"	German.
ॠ	ṚÎ	"	'ṛî'	"	"	"	" with a strong accent.
ऌ	LI	"	'lî'	"	'lö'	"	German.
ए	E	"	'e'	"	'a'	"	'fate'.
ऐ	AI	"	'ai'	"	'ai'	"	'aisle' but not drawl- ed out.
ओ	O	"	'o'	"	'o'	"	'over'.
औ	AU	"	'au'	"	'ou'	"	'ounce' but not drawl- ed out.
क	KA	"	'k'	"	'k'	"	'kill'.
ख	KHA	"	'kh'	"	'kh'	"	'ink-horn' or like 'ch' in 'Loch' (Scottish).
ग	GA	"	'g'	"	'g'	"	'girl'.
घ	GHA	"	'gh'	"	'gh'	"	'log-house' or 'ghee'.
ङ	ÑA	"	'ñ'	"	'n'	"	'king' or 'ink'.
च	CHA	"	'ch'	"	'ch'	"	'church'.
छ	CHHA	"	'chh'	"	the second	'ch' in	'churchill'.
ज	JA	"	'j'	"	'j'	in	'join'.
झ	JHA	"	'jh'	"	palatal	'z' as in	'azure'.
ञ	N'A	"	'n'	"	'n'	in	'pinch'.

SYSTEM OF TRANSLITERATION

ट	TA	Pronounce	't'	like	't'	in	'tub'.
ठ	THA	"	'th'	"	'th'	"	'pot-house'.
ड	DA	"	'ḍ'	"	'd'	"	'dog'.
ढ	DHA	"	'ḍh'	"	'dh'	"	'mad-house'.
ण	NA	"	'ṇ'	"	'ṇ'	"	'splinter' or 'and'.
त	TA	"	't'	"	dental 't'	as in	'thin' or like the French 'T'.
थ	THA	"	'th'	"	'th'	in	'thunder'.
द	DA	"	'd'	"	'th'	"	'then'.
ध	DHA	"	'dh'	"	'th'	"	'this'.
न	NA	"	'n'	"	'n'	"	'no'.
प	PA	"	'p'	"	'p'	"	'paw'.
फ	PHA	"	'ph'	"	'ph'	"	'top-heavy' or 'gh' in 'laugh'.
ब	BA	"	'b'	"	'b'	"	'balm'.
भ	BHA	"	'bh'	"	'bh'	"	'hob-house'.
म	MA	"	'm'	"	'm'	"	'mat'.
य	YA	"	'y'	"	'y'	"	'yawn'.
र	RA	"	'r'	"	'r'	"	'rub'.
ल	LA	"	'l'	"	'l'	"	'lo'.
व	VA	"	'v'	"	'w'	"	'wane'.
श	ŚA	"	'ś'	"	'sh'	"	'ashes'.
ष	SHA	"	'sh'	"	a strong lingual	with rounded lips.	
स	SA	"	's'	"	's'	in	'sun'.
ह	HA	"	'h'	"	'h'	"	'hum'.
ळ	LA	A dento-lingual pronounced with a little rounding of lips.					

Nasalized ऋ as in संयम—M̃; Nasalized ॠ as in संलभ—M̃;

" " " " संवाद—M̃; " " " " संहिता—M̃;

Nasalized ॡ as in मीमांसा—Ñ; Visarga—H̃.

DHAUTI

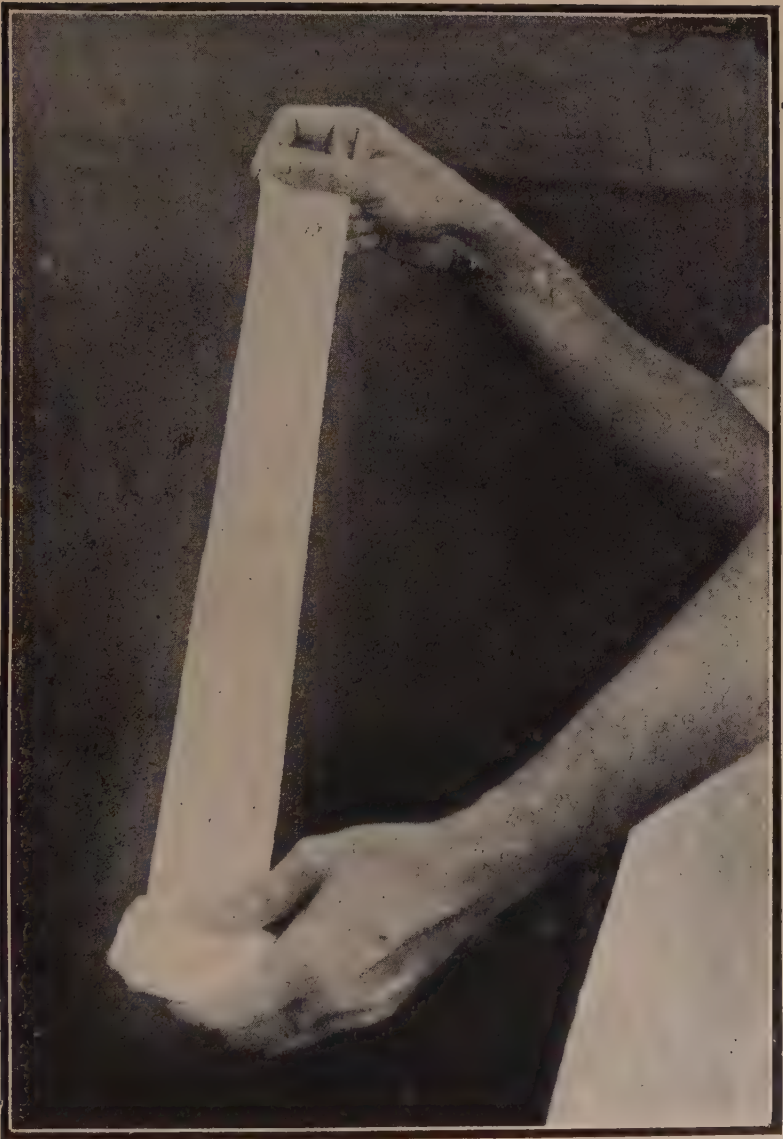
DHAUTI is one of the six Yogic processes recommended to the unhealthy¹ for making their bodies fit (physiologically balanced), so that they may sustain the working of the spiritual forces undisturbed and may help their growth. It consists in cleansing the stomach internally by means of a cloth.

THE TECHNIQUE :—

The cloth should be, according to the Yogic tradition, three inches in breadth and twenty-two and a half feet in length. The piece used for this purpose is itself called *Dhauti*. It has been illustrated in rolled and unrolled conditions in Figs. LXXIX and LXXX respectively. It is desirable that the cloth has a delicate texture. Finely woven cotton fabrics like muslin are just the types suitable for this purpose. Some people look to be under the impression that they could use a piece of coarse cloth, if they reduced the breadth of it, thus keeping up the necessary breadthwise volume of Dhauti, the narrowness of the cloth compensating for the rough texture. The impression may be logically correct ; but mere logical accuracy is hardly helpful in solving the problems of physiology. The fact is that the stomach sits tight upon Dhauti as soon as it is introduced there. A sort of churning action commences, the muscular walls of the stomach kneading and overhauling the contents held in their grip. Now the delicate mucous membrane that covers the internal surface of the mouth, also covers the internal surface of the stomach. And if the folds of Dhauti were to consist of rough cloth, the membrane is likely to be damaged by friction. On the contrary if the texture of Dhauti were to be delicate, this very friction would stimulate the action of the glands situated in the membrane. Again in the act of swallowing and withdrawing Dhauti, the mucous membrane of the throat is constantly

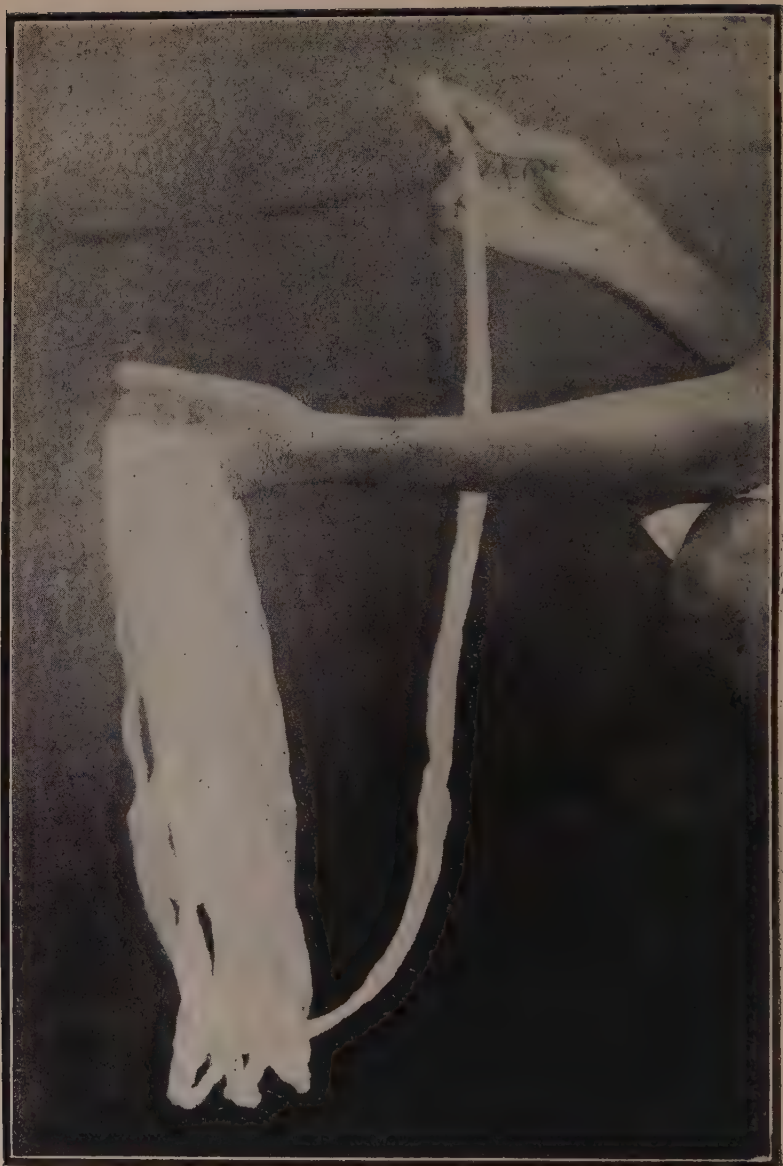
¹ Unhealthy from the Yogic point of view which requires a perfect balance of physiological forces.

Fig. LXXIX



Dhauti Rolled up.

Fig. LXXX



Dhauti Unrolled for Use.

rubbed, and as such stands in the danger of being badly scratched, if the cloth were of a coarse texture !

So also it is preferable, at least in the case of a beginner, for Dhauti to be a continuous piece of cloth, instead of having its length made up by putting together short strips. For howsoever finely the joints be stitched, they are sure to form swellings in the uniform length of Dhauti and cause greater trouble to the unpractised throat. It is equally necessary to point out that the lengthwise borders of the cloth should be very delicately but neatly stitched, lest the loose threads should get out of the fabric, entangling in their meshes the soft uvula !

Dhauti thus got ready should be cleanly washed and sterilized, by boiling it for some ten minutes before it is used.

The practice of Dhauti presents little difficulty in the case of ordinary persons, if the thing is approached systematically. Before one starts swallowing Dhauti, it should either be rolled up as shown in Fig. LXXIX, or should be held in the hand as illustrated in Fig. LXXX, where successive folds would be available for use without there being any entanglement. The student should first examine the whole length of the cloth and should arrange the consecutive folds in such a way that everyone of them would easily come out without the least delay and complication. The best way is to get Dhauti first rolled up and to unroll it only as it is being used. In order to facilitate swallowing, the cloth should first be soaked in water and then lightly squeezed till it stops dripping. Dhauti should be kept only very moderately saturated with water. If it is deprived of its moisture completely, the cotton cloth would absorb the saliva as soon as it is introduced into the mouth, rendering swallowing most difficult, if not impossible. If too much water is allowed to be there, the saliva would be diluted, again making the act of deglutition somewhat laborious. Hence the necessity of carefully adjusting the moisture of wet Dhauti at the time of use.

The loose end of Dhauti is held in the forefinger and the middle one as shown in Fig. LXXX. It is then inserted into the throat as deep as the fingers could (vide Fig. LXXXI), and left there to be swallowed by the effort of the apparatus of deglutition, just as one swallows a morsel of food. When the student feels sure that his throat has caught up Dhauti, he should insert, bit by bit, additional parts of the cloth into his mouth. He might bring them under his teeth with the help of his tongue, and might even chew them as he does his ordinary mouthfuls of food. He must, however, work his teeth rather gently lest he should bite the cloth to pieces. What is necessary is merely a mock eating, so that the blind machinery of swallowing might deal with Dhauti as it deals with the ordinary food. It might indeed, hesitate to welcome these dry folds of a tasteless piece of cloth, but a little coaxing would set the matters right; and eating Dhauti would be as easy as eating bread and butter.

Beginners should not venture too far. They should be satisfied even if they could take in only a few inches the first day. Gluttony is to be avoided everywhere. Even so when the dish consists of a piece of cloth! The tender mucous membrane of the throat is constantly rubbed by Dhauti as it is being forced down the throat which leaves some soreness in the parts subjected to friction. This happens only in the beginning. As the membrane gets accustomed to this sort of rubbing, the soreness disappears; and ordinarily in about a fortnight's time everything becomes smooth and comfortable. Every day additional twelve to eighteen inches of the cloth may be eaten, so that the whole length of Dhauti can be swallowed in about fifteen days.

In the case of persons of ordinary health, this initiation into Dhauti does not cause much trouble. But people with irritable throats present considerable difficulty. In many cases the very first touch of the cloth is sufficient to provoke violent coughing! The eyes are reddened and bedimmed

with tears, the nose begins to run, and despair slowly creeps over even an enthusiastic heart ! If after two or three attempts the throat is not the least inclined to show hospitality to the strange visitor, it is desirable that the swallowing apparatus should be induced to do its work by gentler methods than be compelled to action by rough treatment. Instead of soaking Dhauti in water, it should be immersed in milk. This sweet fluid induces a richer secretion of saliva which in its turn renders the cloth slimy, so that it glides easily down the throat and does not offer much friction against the mucous membrane. If plain milk does not serve the purpose, a small quantity of sugar should be added to it. This generally proves successful, and seasoned Dhauti ceases to be troublesome. After some days' practice the quantities of sugar and milk may be progressively reduced, till at last bare Dhauti can be eaten without much difficulty. This little difficulty is also ultimately overcome by practice.

It must, however, be admitted that in extreme cases nothing can induce the reluctant throat to receive Dhauti ; and the student has to postpone his Dhauti programme, till he gets rid of his irritable throat by some other remedies.

Even in ordinary cases some difficulty is experienced in getting practised to Dhauti. The throat, the œsophagus and the stomach, each of these gets irritated as the cloth reaches it and every now and then the course of Dhauti is interrupted by a tendency to throw up the cloth. Under these circumstances, the student is simply to shut his mouth and keep perfectly passive. After two or three spasms, the system becomes ready for further swallowing.

When the whole length can be eaten, the student should carefully reserve a foot of it outside the mouth, so that there remains no danger of the other end being drawn into the stomach. This free end must be available for withdrawing Dhauti.

Although Uḍḍiyâna and Nauli do not form an integral part of the Dhauti process, they are traditionally practised while the stomach is still loaded with Dhauti. We shall now see why this is done.

So far as actual experimentation goes we know only two uses of Dhauti—*absorption* and *massage*. The cotton fabric when introduced into the stomach absorbs fluids collected in the stomach. Generally they are the gastric secretions ; but very often free hydrochloric acid and bile which find their way up into the stomach, are also present. On examination the withdrawn Dhauti indicates this fact. Massage is the other use. The walls of the stomach sit tight on the cloth and churn it by their involuntary actions. Thus the stomach is gently rubbed against the cloth and a sort of massage is done to it. As will be made clear later on, when we study the experiments on Dhauti, the utilities of both, absorption and massage are greatly increased by the practice of Uḍḍiyâna and Nauli.

Yogic texts claim many other advantages for Dhauti. We have certainly some clinical evidence in support of this claim. But we cannot say here anything about those advantages, for we have at present neither any experimental proof nor any rational explanation accounting for the benefits. We are, however, inclined to believe that even in the case of these advantages, the practice of Uḍḍiyâna and Nauli is a help to Dhauti.

Particular people have misgiving over the practice of Uḍḍiyâna and Nauli while the stomach still retains the cloth. They are afraid lest these abdominal movements should throw the folds of Dhauti into complications, rendering its withdrawal extremely painful and even at times impossible ! From our very wide experience in this regard we can assure these people, that there is absolutely no fear on this score, provided the swallowing process is kept fairly free from vio-

Fig. LXXXI



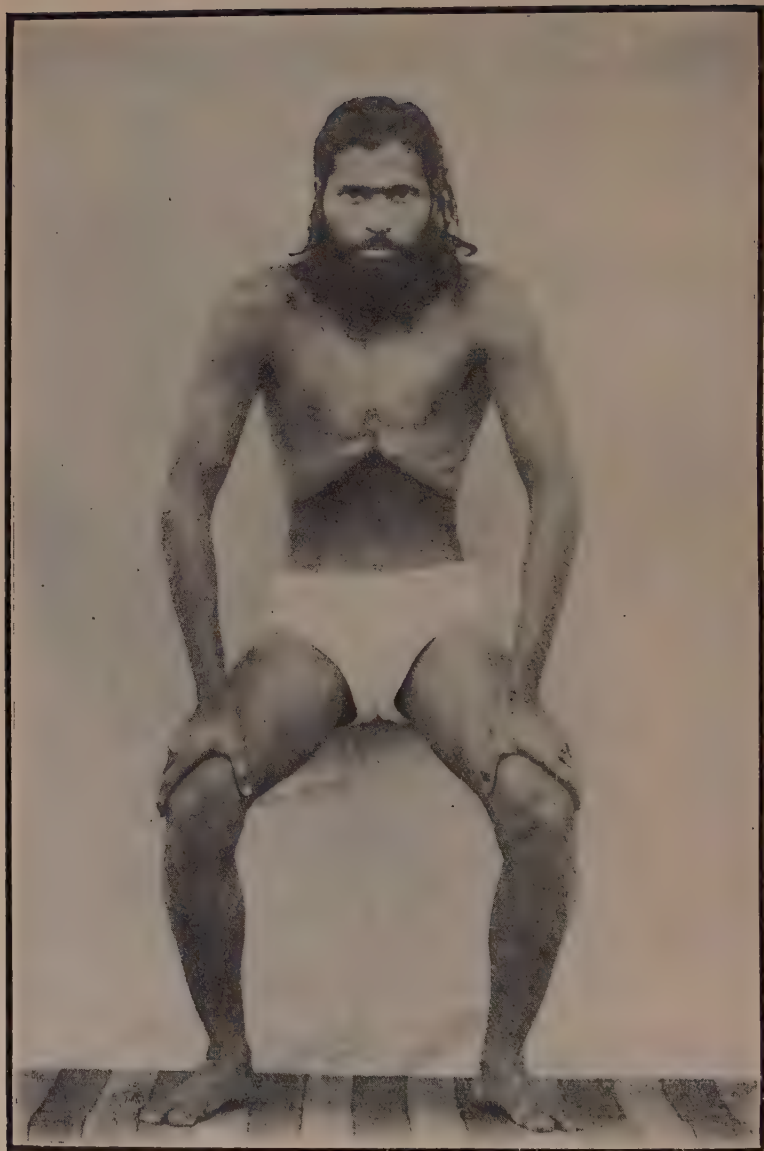
Dhauti Introduced into the Mouth.

Fig. LXXXII



Pose for Practising Uḍḍiyāna & Nauli
during
The Process of Dhauti.

Fig. LXXXIII



Uddiyâna in Standing.

lent attacks of vomiting. This freedom is easily secured by approaching the practice systematically and by avoiding all possible haste.

A word about the total time taken for eating the whole length of the cloth and retaining it in the stomach will not be inopportune here. What time one spends in swallowing is immaterial. The student should never allow Dhauti to remain in the stomach for more than 20 to 25 minutes after the swallowed end first touches that organ. The reason is this. The stomach deals with the cloth as it does with ordinary food. Hence there is every possibility of the eaten end of the cloth being pushed down the pyloric sphincter, if it is allowed to be there for more than the period indicated above. In the fifth radiograph recorded in this number, Dhauti is to be seen in the duodenum and perhaps even in the jejunum. It is not desirable that the cloth should be allowed to encroach upon the digestive tube so far. Because in withdrawing the same, there is every possibility of the pyloric sphincter being injured. All undue retention would be avoided, if the student took something like a fortnight of daily practice to consume the whole length; and every day attempted only as much as he could accomplish without much trouble.

The pose appropriate to the practice of Uḍḍiyâna and Nauli during the process of Dhauti has been illustrated in Fig. LXXXII. Fig. LXXXIII illustrates Uḍḍiyâna in standing,

Withdrawal of Dhauti does not require many instructions. The cloth becomes so slippery that it can be easily pulled out. But even in this procedure care must be taken not to injure the throat by violent jerks. A gentle pull with a gaping mouth is always recommended. If the cloth is held back, as it sometimes is, the student is simply to retract a few inches of it and, with his mouth shut up, to keep perfectly passive for a few seconds. The whole thing will adjust itself and withdrawal will be smooth.

In withdrawing Dhauti, both the hands should be used alternately. The cloth as it is being pulled out, should be collected in a basin.

In spite of all the precautions taken in practising Dhauti, if the student finds his throat considerably sore, he should suspend his Dhauti process for a few days according to the needs of the case. When he finds himself normal he should again start his programme. Generally there will be little occasion to observe this rule.

GENERAL :—

We cannot too much insist upon great care being taken of the Dhauti cloth. As soon as the daily practice is over, the piece should be cleanly washed with soap and boiled for about ten minutes for being sterilized. It should again be washed with clear water and exposed to dry. In doing this the cloth should be well spread out breadthwise. Drying should be done in a room free from dust-nuisance. Especially in large cities every particle of dust is teeming with microbes ! Dirty villages are not better in any way. If these deadly microbes were deposited on Dhauti and introduced into the system, it is sure to be dangerous. When students cannot get a room suitable for drying their Dhauti, they should get the cloth sterilized again before the next day's use. When Dhauti is dried, it should be rolled up, as shown in Fig. LXXIX ; and kept clean for further use.

If the piece of cloth is well preserved, it may last even for three months. Much will, however, depend upon the quality of the cloth and the treatment it gets at the hands of the eater. The best way is to use the same piece only so long as it is quite intact and does not show the least tendency to become threadbare. Rats should never be allowed to take liberty with Dhauti and the cloth should be rejected if it is gnawed by these mischief-mongers !

When Dhauti is eaten with a reserve of a few inches, and is not allowed to be worn out or gnawed, there is little fear of its either being pulled into the stomach or a part of it being left in there, the strip being snapped off during withdrawal. If perchance, however, this sort of accident happens, the student should not be alarmed. He should immediately take some emetic and he will at once vomit out the piece of Dhauti. The best emetic that would be available in every household is sodium chloride or the common salt. A concentrated solution of it measuring 10 to 15 ounces, would serve the purpose.

Morning is the best time for practising Dhauti. The stomach should be empty. Because the irritation caused by the piece of cloth sets in violent anti-peristalsis and the stomach contents would be instantaneously vomited. Even if the stomach is empty and the small intestine loaded, still the practice would not be satisfactorily done. Because the exercises of Uḍḍiyâna and Nauli are best performed with clean bowels.

A novice should avoid every sour and pungent article of food, till his throat gets rid of all soreness. Chillies and tamarind should be strictly avoided. When the throat recovers its usual health, however, even these things may be taken, though on a very moderate scale.

Physiological and therapeutical aspects of this process will be discussed when we will have studied the experiments on Dhauti.

X-RAY EXPERIMENTS ON DHAUTI

EXPERIMENT I

OBJECTS OF THE EXPERIMENT :—

One of the objects of the experiment was to study the normal position of the stomach when a Dhauti pasted with three ounces of barium sulphate was introduced into it through the mouth, with a view to contrast it with its own position under Uḍḍiyāna as illustrated in Fig. LXXXIII. Another object was to know the treatment given to the Dhauti by the stomach under normal conditions, so that the same may be contrasted with the treatment accorded to the Dhauti by the stomach under different Yogic exercises. The third object was to understand the behaviour of the Dhauti in the œsophagus.

PREPARATION OF THE SUBJECT :—

The subject was a youth running his twenty-third year. He was in full enjoyment of health and had a thorough training in Dhauti. On the day previous to the experiment, he took his usual meal at about 12 noon. He had a cup of milk in the evening and a moderate dose of an organic laxative at bedtime. He slept well over night and had a clear motion the next morning. In order, however, to secure complete clearness of the digestive tube the subject had it flushed with four pints of tepid water by means of the enema at about 6 a.m. The experiment started nearly at 9-30 in the morning.

THE DHAUTI :—

As usual a piece of muslin three inches wide and twenty-two and a half feet in length with its borders finely stitched up, was taken for being used in this experiment. It weighed 44·5 grammes. As this fine cotton fabric would not cast a shadow under X-Rays, it was covered with barium sulphate in the following way. A concentrated solution was prepared of Indian gum and was mixed with three ounces of barium

sulphate, making a thick paste. This paste was spread evenly upon Dhauti cloth which was subsequently rolled up. Thus the quantity of barium would stick fast to the cloth and in spite of the pressure of deglutition would not be much squeezed out. The paste rendered the cloth opaque to X-Rays and useful for radiographic purposes.

THE EXPERIMENT PROPER :—

At about 9-30 a. m. the subject started swallowing the cloth and finished his operation in about ten minutes. Ordinarily it takes not more than two minutes for an expert to pass the whole piece down the throat ; but in the present case the gummy paste rendered the work a little more difficult. We allowed another twenty minutes to pass by so that the stomach might be found fully active in dealing with the Dhauti. At about 10 a. m. the subject was skiagraphed.

For this work he was made to sit on a stool, his legs resting on the ground below. The X-Ray plate was held against his abdomen quite close to it. He was made to incline forward a little and the X-Ray tube was arranged behind his back. The radiograph taken in this position has been shown in Fig. LXXXIV. Fig. LXXXIVa gives the line drawing of the same.

NOTE —

The radiographs printed in this number were all originally of 12" × 10". They have been subsequently reduced to 6" × 5" size for the convenience of this journal.

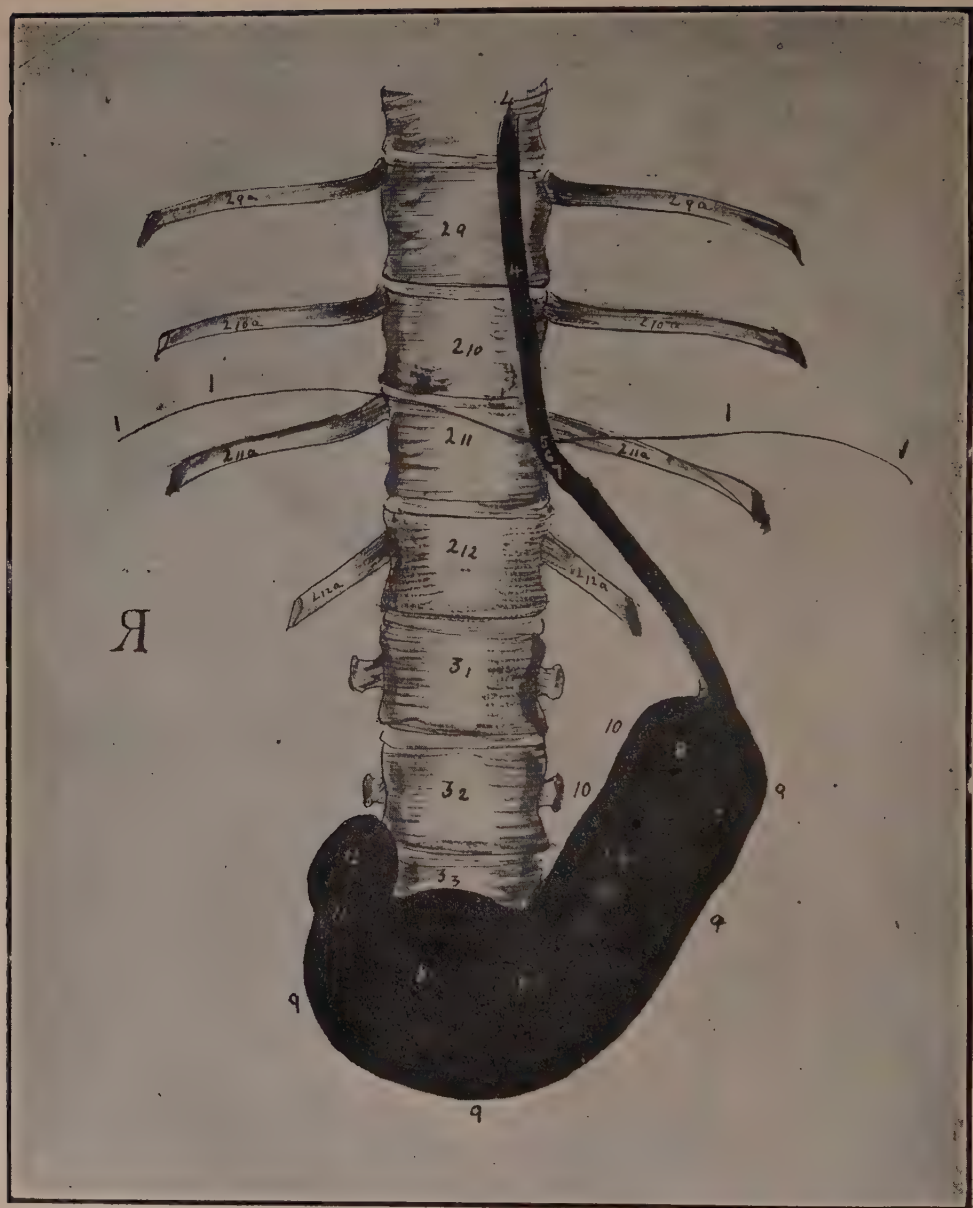
REFERENCES TO RADIOGRAPH III

- 1 The Diaphragm.
- 2₉ The Ninth Dorsal.
- 2_{9a} The Ninth Ribs.
- 2₁₀ The Tenth Dorsal.
- 2_{10a} The Tenth Ribs.
- 2₁₁ The Eleventh Dorsal.
- 2_{11a} The Eleventh Ribs.
- 2₁₂ The Twelfth Dorsal.
- 2_{12a} The Twelfth Ribs.
- 3₁ The First Lumbar.
- 3₂, 3₃ The Second and the Third Lumbar respectively.
- 4 Position of the Thoracic Portion of the Œsophagus.
- 5 Position where the Œsophagus Pierces the Diaphragm.
- 6 Position of the Abdominal Portion of the Œsophagus.
- 7 Position of the Cardiac Orifice.
- 8 Dhauti Swallowed.
- 9 The Greater Curvature.
- 10 The Lesser Curvature.
- 11 The Pyloric Orifice.
- 12 A Part of the Duodenum.
- R The Right Side of the Abdomen.



Normal Stomach
with
Dhauti Swallowed.

Fig. LXXXIVa



Line Drawing of *Radiograph III*.

REFERENCES TO RADIOGRAPH III

- 1 The Diaphragm.
- 2₉ The Ninth Dorsal.
- 2_{9a} The Ninth Ribs.
- 2₁₀ The Tenth Dorsal.
- 2_{10a} The Tenth Ribs.
- 2₁₁ The Eleventh Dorsal.
- 2_{11a} The Eleventh Ribs.
- 2₁₂ The Twelfth Dorsal.
- 2_{12a} The Twelfth Ribs.
- 3₁ The First Lumbar.
- 3₂, 3₃ The Second and the Third Lumbar respectively.
- 4 Position of the Thoracic Portion of the Œsophagus.
- 5 Position where the Œsophagus Pierces the Diaphragm.
- 6 Position of the Abdominal Portion of the Œsophagus.
- 7 Position of the Cardiac Orifice.
- 8 Dhauti Swallowed.
- 9 The Greater Curvature.
- 10 The Lesser Curvature.
- 11 The Pyloric Orifice.
- 12 A Part of the Duodenum.
- R The Right Side of the Abdomen.

POINTS OF STUDY :—

- 1 — (a) The plate covers from the ninth to the twelfth dorsal and the first four lumbar vertebræ.
- (b) It also covers the œsophagus and the stomach, and indicates the initial portion of the duodenum.
- 2 — (a) The upper surface of the diaphragm is to be seen in the radiograph and is marked 1.
- (b) Opposite the vertebral column, it stands a little below the upper border of the eleventh dorsal.¹
- (c) On the right it rises a little above the eleventh dorsal.
- (d) On the left the highest point in its curvature is a trifle lower than the upper border of the eleventh dorsal.
- 3 — (a) The thick black line first stretching across the vertebral column and then deviating to the left is a shadow of the Dhauti.
- (b) The J-shaped thickest shadows are cast by the Dhauti, its numerous folds having accumulated in the stomach.
- (c) The continuation of these shadows on the right, may be a part of the Dhauti pushed into the duodenum.
- (d) Or, it may be only a portion of barium sulphate squeezed out of the Dhauti by the digestive tube and let off into the duodenum by the stomach.
- 4 — (a) The Dhauti forms no folds in the œsophagus either in the thoracic or in the abdominal portion of it.
- (b) The Dhauti looks to be inclined to the left as it reaches the diaphragm. This is because the œso-

1 The following from Gray's *Anatomy* will interest our readers. "Skiagraphy shows that the height of the Diaphragm in the thorax varies considerably with the position of the body. It stands highest when the body is horizontal and the patient on his back, and in this position it performs the largest respiratory excursions with normal breathing. When the body is erect the dome of the Diaphragm falls, and its respiratory movements become smaller. The dome falls still lower when the sitting posture is assumed, and in this position its respiratory excursions are smallest."

phagus itself deviates to the left as it passes to the diaphragm to pierce it.

5 — (a) The cross of the two shadows, that of the Dhauti and of the diaphragm marks the œsophageal hiatus in the diaphragm.

(b) It is situated in front of the eleventh dorsal.

6 — (a) The abdominal portion of the œsophagus is only half an inch in length and ends in the cardiac orifice. So in this skiagraph, the cardiac orifice must be situated at the level of the upper border of the twelfth dorsal.

(b) In the present radiograph it casts no shadow.

7 — (a) The stomach starts with the cardiac orifice. Therefore in the skiagraph under examination the beginning of the stomach must be in level with the upper border of the twelfth dorsal.

(b) Along the line of the Dhauti, however, there are no shadows up to the middle of the first lumbar.

(c) It appears, therefore, that the upper portion of the stomach is empty,¹ the Dhauti being pressed down in the lower portion of it for being driven to the duodenum.

8 — (a) The deepest shadows having the shape of J are cast by the stomach.

(b) Their uniform depth shows that the Dhauti has been evenly distributed inside the stomach.

9 — (a) The lesser curvature of the loaded stomach is to be completely seen in the skiagraph.

(b) Its highest point is situated a little above the level of the lower border of the first lumbar.

¹ It can be seen from the original radiograph that this portion is filled with gases.

- (c) The lowest point in this curvature is a little above the level of the lower border of the third lumbar.
- 10 — (a) The lowest part of the greater curvature has not been covered by the present plate.
- (b) The highest point in the greater curvature is located in a line with the upper border of the second lumbar.
- (c) The lowest point in this curvature is not to be seen. But the lower end of it is in level with the middle of the third lumbar.
- 11 — (a) The borders of both the curvatures are not continuous, but are broken at various points.
- (b) This is due to the folds of the Dhauti being arranged a bit irregularly in the stomach.
- 12 — (a) The pyloric orifice is situated at the end of the stomach. Therefore its position is indicated in the present radiograph by the point where the thick and broad shadows of the stomach end.
- (b) Hence in this skiagraph it lies a little below the level of the middle of the third lumbar.
- 13 — (a) Only a part of the duodenum is to be seen in this radiograph, being shown by the shadows either of the Dhauti pasted with barium sulphate or barium sulphate itself.
- (b) The commencement of the duodenum in the present case is in a line with the middle of the third lumbar.
- (c) It rises upwards from the pylorus.

EXPERIMENT II

OBJECTS OF THE EXPERIMENT :—

In the first experiment the lower part of the stomach has been left out. The special object of this experiment was to include that part for studying its own position and the behaviour of the swallowed Dhauti in it.

PREPARATION OF THE SUBJECT :—

The subject was taken up for this experiment some twenty minutes after the last, while he continued to retain the same Dhauti in his stomach.

THE EXPERIMENT PROPER :—

The position of the subject and the X-Ray arrangements in this experiment, were the same as in the last. The resulting radiograph is shown in Fig. LXXXV. Fig. LXXXVa gives the line drawing of the same.

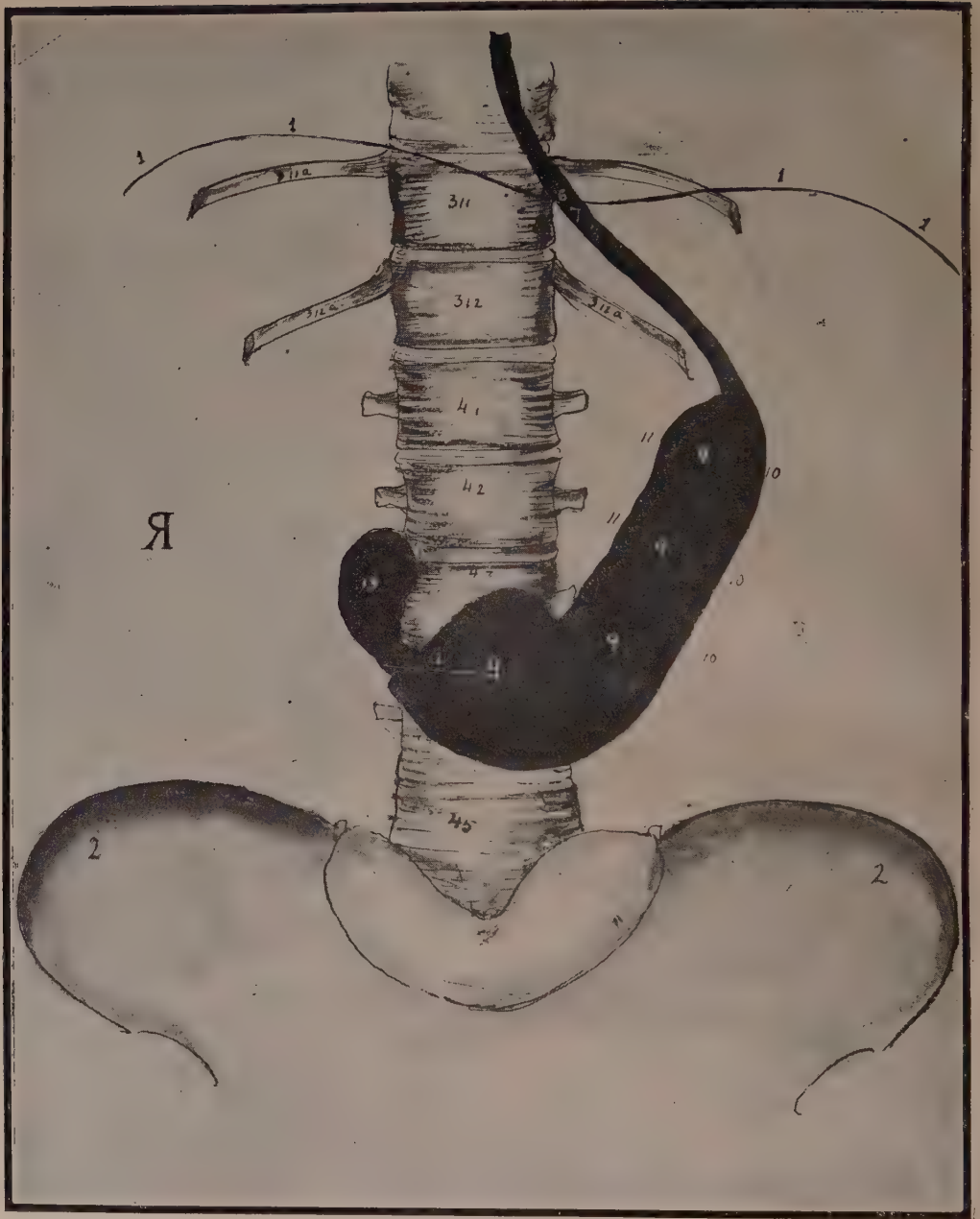
REFERENCES TO RADIOGRAPH IV

- 1 The Diaphragm.
- 2 The Iliac Bones.
- 3₁₁ The Eleventh Dorsal.
- 3₁₂ The Twelfth Dorsal.
- 3_{12a} The Twelfth Ribs.
- 4₁ The First Lumbar.
- 4₂, 4₃, 4₄, 4₅ The Successive Lumbar Vertebrae up to the Fifth.
- 5 Position of the Thoracic Portion of the Œsophagus.
- 6 Position where the Œsophagus Pierces the Diaphragm.
- 7 Position of the Abdominal Portion of the Œsophagus.
- 8 Position of the Cardiac Orifice.
- 9 Dhauti Swallowed.
- 10 The Greater Curvature.
- 11 The Lesser Curvature.
- 12 The Pyloric Orifice.
- 13 A Part of the Duodenum.
- R The Right Side of the Abdomen.



Normal Stomach
with
Dhauti Swallowed.

Fig. LXXXVa



Line Drawing of *Radiograph IV.*

REFERENCES TO RADIOGRAPH IV

- 1 The Diaphragm.
- 2 The Iliac Bones.
- 3₁₁ The Eleventh Dorsal.
- 3₁₂ The Twelfth Dorsal.
- 3_{12a} The Twelfth Ribs.
- 4₁ The First Lumbar.
- 4₂, 4₃, 4₄, 4₅ The Successive Lumbar Vertebrae up to the Fifth.
- 5 Position of the Thoracic Portion of the Œsophagus.
- 6 Position where the Œsophagus Pierces the Diaphragm.
- 7 Position of the Abdominal Portion of the Œsophagus.
- 8 Position of the Cardiac Orifice.
- 9 Dhauti Swallowed.
- 10 The Greater Curvature.
- 11 The Lesser Curvature.
- 12 The Pyloric Orifice.
- 13 A Part of the Duodenum.
- R The Right Side of the Abdomen.

POINTS OF STUDY:—

N. B. As this radiograph represents the same position as Radiograph III, except for the inclusion of the lower portion of the stomach and the exclusion of the upper portion of the œsophagus, we shall study only those points that have not been noticed in the case of the third radiograph.

- 1 — (a) The plate starts only with the lower portion of the tenth dorsal.
- (b) The upper part of the œsophagus has, therefore, been excluded.
- (c) The lowest portion of the thoracic œsophagus is, however, included; and the Dhauti in it is to be seen clearly marked against the tenth dorsal as far as it is skiagraphed here.
- 2 — (a) The fourth and the fifth lumbar are included in this radiograph.
- (b) The crests of the two hip-bones are to be seen in the two lower corners.
- (c) The lowest portion of the stomach is clearly visible in this radiograph.
- (d) The duodenum is indicated here to a larger extent than in the previous skiagraph.
- 3 — (a) The portion of the greater curvature that is included in the skiagraph under examination, but was excluded in Radiograph III, has the same characteristics as the remaining portion of it. Its border line is broken at different places.
- (b) Its lowest point is lower than the upper border of the fifth lumbar vertebra.
- 4 — (a) The pyloric part of the stomach is very clearly seen in the skiagraph.
- (b) It has assumed the shape characteristic of it when the stomach is full.

- 5 — (a) The whole loaded stomach presents a more compact appearance in this radiograph than in the last.
- (b) Owing to the pressure of contents being driven to the pylorus, the stomach has assumed more exactly the well known J-shape.
- (c) Owing to this very pressure which is, perhaps, greater in this experiment than in the last, the lower part of the stomach has deviated a little to the left, as can be seen from the comparative positions of the lowest points of the lesser curvature.
- (d) In the third radiograph this point is to the right of the left border of the third lumbar ; whereas in this radiograph it is exactly on the left border of it.
- 6 — (a) The duodenum has cast a longer, broader and deeper shadow in this than in the last skiagraph.
- (b) A larger portion of the pasted Dhauti or a bigger quantity of barium sulphate has found its way to the duodenum.
- (c) Its starting point is located here in a line with the the lower border of the third lumbar ; whereas in the previous radiograph it lies in level with the middle of that vertebra.
- (d) The shadow of the upper half of the duodenum, as far as it is visible in this skiagraph, is broader than that of the lower half.
- (e) This is, perhaps, due to the presence of a fold in this part of the small intestine.
- (f) The starting point of the duodenum, which also marks the position of the pyloric orifice, is located, in this radiograph, to the left of the right border of the third lumbar. But in the third radiograph the same was seen to lie on the right side of the right border of the same vertebra.
- (g) The point noted in (f) also shows that the lower part of the stomach has a little deviated to the left, as compared with its position in the last experiment.

EXPERIMENT III

OBJECTS OF THE EXPERIMENT :—

One of the objects of this experiment was to note the position and shape of the stomach under Uḍḍiyâna while it continued to hold the swallowed Dhauti. Another object was to examine how the Dhauti was treated by the stomach when it was allowed to lie there for nearly an hour, and Uḍḍiyâna was practised ultimately. The third object was to understand the behaviour of the Dhauti under Uḍḍiyâna, if it had passed the duodenum.

PRÉPARATION OF THE SUBJECT :—

The subject was taken up for this experiment some twenty minutes after the last, while he continued to retain the same Dhauti in his stomach.

THE EXPERIMENT PROPER :—

The subject was seated, as in the last two experiments, on a stool, his legs resting on the ground below. The X-Ray plate was held against his abdomen, quite close to it, while he practised Uḍḍiyâna. The performance of this required only as much bending as was done in the last two experiments. The X-Ray tube was arranged behind the subject's back. The radiograph taken in this position has been produced in Fig. LXXXVI. Fig. LXXXVIa gives the line drawing of the same.



Stomach in Uddiyāna
with
Dhauti Swallowed.

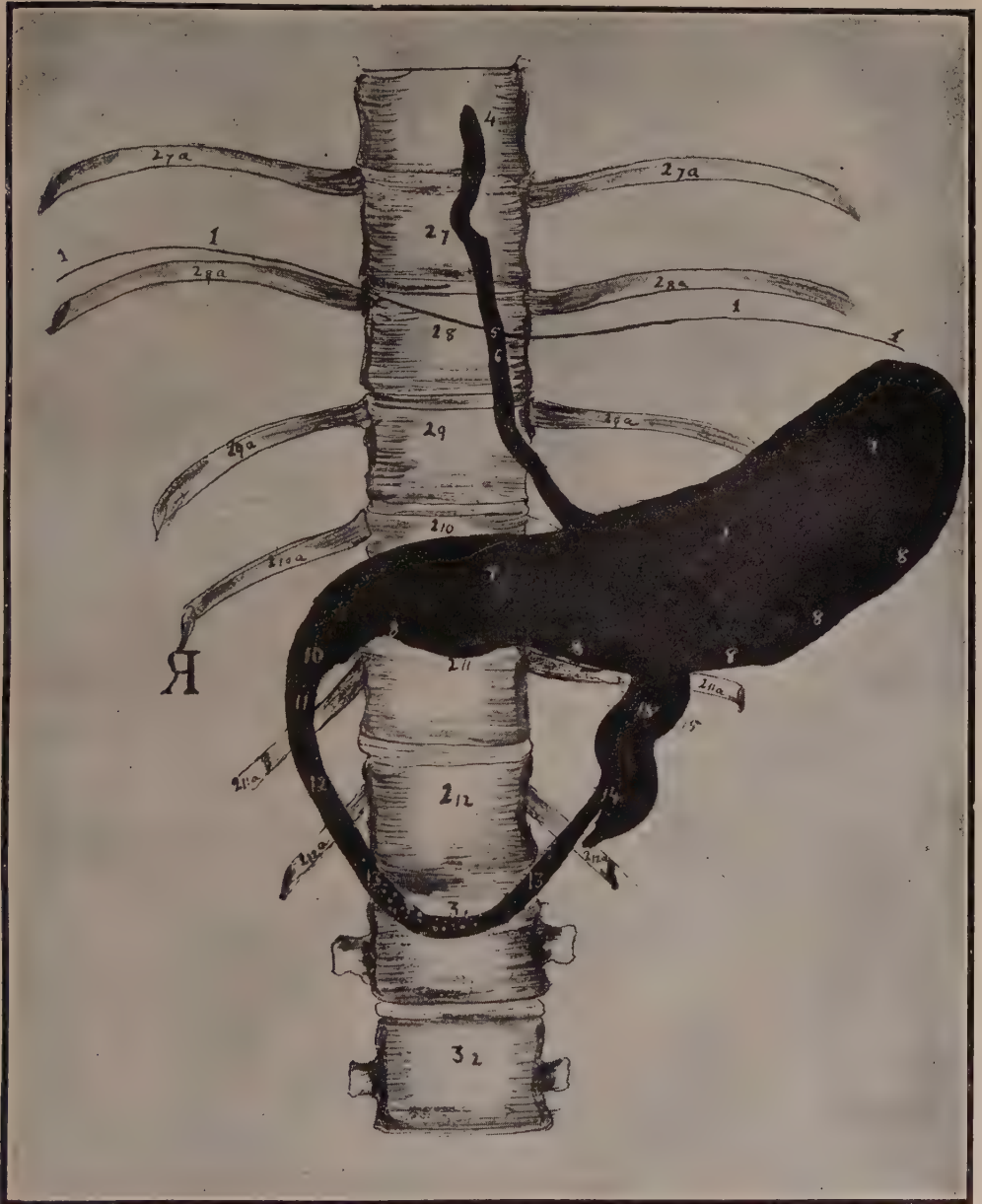
REFERENCES TO RADIOGRAPH V

- 1 The Diaphragm.
- 2₇ The Seventh Dorsal.
- 2_{7a} The Seventh Ribs.
- 2₈ The Eighth Dorsal.
- 2_{8a} The Eighth Ribs.
- 2₉ The Ninth Dorsal.
- 2_{9a} The Ninth Ribs.
- 2₁₀ The Tenth Dorsal.
- 2_{10a} The Tenth Ribs.
- 2₁₁ The Eleventh Dorsal.
- 2_{11a} The Eleventh Ribs.
- 2₁₂ The Twelfth Dorsal.
- 2_{12a} The Twelfth Ribs.
- 3₁ The First Lumbar.
- 3₂ The Second Lumbar.
- 4 Position of the Thoracic Portion of the Œsophagus.
- 5 Position where the Œsophagus Pierces the Diaphragm.
- 6 Position of the Abdominal Portion of the Œsophagus.
- 7 Dhauti Swallowed.
- 8 The Greater Curvature.
- 9 The Lesser Curvature.
- 10 The Pyloric Orifice.
- 11 Position of the Superior Portion of the Duodenum.
- 12 Position of the Descending Portion of the Duodenum.
- 13 Position of the Horizontal Portion of the Duodenum.
- 14 Position of the Ascending Portion of the Duodenum.
- 15 A Part of the Jejunum.
- R The Right Side of the Abdomen.

REFERENCES TO RADIOGRAPH V

- 1 The Diaphragm.
- 2₇ The Seventh Dorsal.
- 2_{7a} The Seventh Ribs.
- 2₈ The Eighth Dorsal.
- 2_{8a} The Eighth Ribs.
- 2₉ The Ninth Dorsal.
- 2_{9a} The Ninth Ribs.
- 2₁₀ The Tenth Dorsal.
- 2_{10a} The Tenth Ribs.
- 2₁₁ The Eleventh Dorsal.
- 2_{11a} The Eleventh Ribs.
- 2₁₂ The Twelfth Dorsal.
- 2_{12a} The Twelfth Ribs.
- 3₁ The First Lumbar.
- 3₂ The Second Lumbar.
- 4 Position of the Thoracic Portion of the Œsophagus.
- 5 Position where the Œsophagus Pierces the Diaphragm.
- 6 Position of the Abdominal Portion of the Œsophagus.
- 7 Dhauti Swallowed.
- 8 The Greater Curvature.
- 9 The Lesser Curvature.
- 10 The Pyloric Orifice.
- 11 Position of the Superior Portion of the Duodenum.
- 12 Position of the Descending Portion of the Duodenum.
- 13 Position of the Horizontal Portion of the Duodenum.
- 14 Position of the Ascending Portion of the Duodenum.
- 15 A Part of the Jejunum.
- R The Right Side of the Abdomen.

Fig. LXXXVIa



Line Drawing of *Radiograph V.*

POINTS OF STUDY :—

- 1 — (a) The radiograph shows the dorsal vertebræ from the seventh to the twelfth together with the first lumbar and a part of the second.
- (b) It covers the œsophagus, the stomach, and indicates the duodenum and most probably a part of the jejunum.
- 2 — (a) The upper surface of the diaphragm is to be seen in the skiagraph and is marked 1.
- (b) In front of the vertebral column it lies in level with the top of the ninth dorsal.
- (c) On the left of the vertebral column it rises as high as the middle of the eighth dorsal.
- (d) On the right of the vertebral column its highest point is situated in a line with the base of the seventh dorsal.
- (e) Comparing these positions with those noted in the first experiment [vide 2—(a), p. 180], we find that the diaphragm has risen in Uḍḍiyâna, from the top of the eleventh dorsal to the top of the ninth in front of the spine, from below the upper border of the eleventh dorsal to the middle of the eighth on the left of the spine, and from a little above the eleventh dorsal to the base of the seventh on the right of the spine.
- 3 — (a) The thick black line first stretching across the vertebral column and then deviating to the left is a shadow of the Dhauti.
- (b) The broad and thick shadows horizontally crossing the plate in the middle, are cast by the stomach, the folds of the Dhauti pasted with barium sulphate having accumulated there.

- (c) The continuation of these shadows is a semi-circular arc which indicates the Dhauti in the duodenum and hence marks the position of the latter under Uḍḍiyâna.
 - (d) Broader shadows are seen issuing from the end of the arc. They ascend to disappear behind the stomach and descend to appear again a little to the left of their ascending belt.
 - (e) They indicate the position of the jejunum, the uppermost fold of it.
 - (f) This part is probably filled with the pasted Dhauti and squeezed out barium sulphate, or more probably with barium sulphate alone.
- 4 — (a) The Dhauti forms no fold in the œsophagus in its abdominal portion.
- (b) But in the thoracic portion the Dhauti forms two folds at the root of the left seventh rib.
 - (c) This is most probably due to the shortened length of the thoracic œsophagus. In Uḍḍiyâna the height of the thoracic cavity is considerably reduced, mainly owing to the great rise in the level of the diaphragm. So the original length of the thoracic œsophagus has to be accommodated within this shorter space. This naturally reduces the length of the œsophagus and allows the Dhauti to lie in curves.
- 5 — (a) The cross of the two shadows, that of the Dhauti and of the diaphragm, marks the position of the œsophageal hiatus in the diaphragm.
- (b) It is situated in front of the eighth dorsal.
 - (c) In the last two radiographs the hiatus lay in front of the eleventh dorsal. That means Uḍḍiyâna has raised it from the eleventh to the eighth.

- 6 — (a) The abdominal portion of the œsophagus is only half an inch in length, and ends in the cardiac orifice. So in the present radiograph that orifice must be situated at the level of the lower border of the ninth dorsal.
- (b) In the skiagraph under examination the cardiac orifice is not to be seen because it casts no shadow. Perhaps it is also hidden behind the stomach in this experiment.
- 7 — (a) Owing to Uḍḍiyâna the position of the stomach as studied in the last two experiments has been completely changed.
- (b) Hence the empty upper portion of that organ which was noticed in those experiments is not seen here being hidden behind the loaded lower portion of it.
- 8 — (a) The upper surface of the loaded stomach almost touches the diaphragm.
- (b) The highest point in that surface is now in level with the middle of the eighth dorsal.
- (c) In the last two experiments this point was a little above the level of the lower border of the first lumbar.
- (d) That means the highest point in the loaded stomach has risen from the lower border of the first lumbar to the middle of the eighth dorsal.
- 9 — (a) Owing to the compressed and flattened condition of the stomach, the two curvatures, the lesser and the greater, which in the last two experiments were so vastly disproportionate in length, have equalized themselves here in this regard.
- (b) Owing to the same reason, the borders of the two curvatures are more continuous in this than in the two previous radiographs.

- 10 — (a) The J-shape of the stomach has completely disappeared.
- (b) The shadows broadening in the lower part of the stomach as marked in the fourth radiograph are seen here narrowing almost to a point.
- (c) The lowest point in the position of the stomach in the present radiograph is a little below the top of the eleventh dorsal.
- (d) In the previous experiment this point was noted to be a little below the top of the fifth lumbar.
- (e) That means the whole stomach has been raised from the fifth lumbar to the eleventh dorsal.
- 11 — (a) The end of the broad shadows of the stomach indicates the position of the pyloric orifice.
- (b) It is situated in the present experiment almost in a line with the top of the eleventh dorsal.
- (c) In the second experiment it lay at the base of the third lumbar.
- (d) That is, from the base of the third lumbar it is raised to the top of the eleventh dorsal owing to Uḍḍiyâna.
- 12 — (a) The duodenum is clear of barium sulphate.
- (b) The only shadow it throws is that of the pasted Dhauti.
- (c) It seems that the quantity of barium sulphate in the duodenum has been pushed into the jejunum.
- (d) It is also *probable* that during Uḍḍiyâna the pyloric orifice has opened and the semi-solid solution of barium sulphate has been pushed back into the stomach. Which of the two actions has happened or whether both have happened in parts, we have no clue, in this radiograph, to understand.¹

1 We have observed on the fluorescent screen that pylorus opens during Uḍḍiyâna and the contents of the duodenum are pushed back into the stomach. We are collecting more experimental evidence on this point and shall be glad to publish it when properly formulated.

- (e) The circular curve of the duodenum can be clearly seen in this radiograph, being indicated by the arc of the shadow cast by the Dhauti.
 - (f) The lowest point of the duodenum lies in front of the top of the first lumbar.
 - (g) In the fourth radiograph the highest point of the duodenum lay in a line with the base of the second lumbar.
 - (h) Statements made in (f) and (g) show how far the duodenum has been raised owing to Uḍḍiyâna.
 - (i) The starting point of the duodenum is raised from the top of the fourth lumbar to the top of the eleventh dorsal. Now as the duodenum is, for the most part, fixed to the abdominal wall, it seems that the wall itself is considerably raised during Uḍḍiyâna.
- 13 — (a) As the duodenum measures something like 6 inches only, the small intestine as seen in this radiograph must be covering a part of the jejunum.
- (b) Most probably the fold that lies to the left of the spine pertains to the jejunum.

*N. B.—The Director of the Kaivalyadhâma entreats
every man of means to show his active
sympathy for the Âśrama.*

The Semi-Scientific Section

*N. B.—Instruction in Yogic culture higher as well as
lower will be given gratis at the Áśrama to
everyone that earnestly seeks it.*

THE DIGESTIVE APPARATUS

"THE apparatus for the digestion of the food consists of the digestive tube and of certain accessory organs.

The **digestive tube** (alimentary canal), about 30 feet long, extends from the mouth to the anus, and is lined throughout by mucous membrane. It consists of the following parts: at its commencement is the *mouth*, where provision is made for the mechanical division of the food (*mastication*), and for its admixture with a fluid secreted by the salivary glands (*insalivation*); beyond this are the organs of deglutition, the *pharynx* and the *œsophagus*, which convey the food into the *stomach*, where the first stages of the digestive process take place ; the stomach is followed by the *small intestine*, which consists of three parts, the *duodenum*, the *jejunum*, and the *ileum*. In the small intestine the process of digestion is completed and the resulting products are absorbed into the blood and lymph-vessels. Finally the small intestine ends in the *large intestine*, which is made up of the *cecum*, the *colon*, the *rectum*, and the *anal canal*, the last ending on the surface of the body at the *anus*.

The **accessory organs** are the *teeth*, for purposes of mastication; the three pairs of *salivary glands*—the *parotid*, *submaxillary* and *sublingual*—the secretion from which mixes with the food in the mouth and acts chemically on one of its constituents ; the *liver* and the *pancreas*, two large glands in the abdomen, the secretions of which, in addition to that of numerous minute glands in the walls of the alimentary canal, take part in the process of digestion."

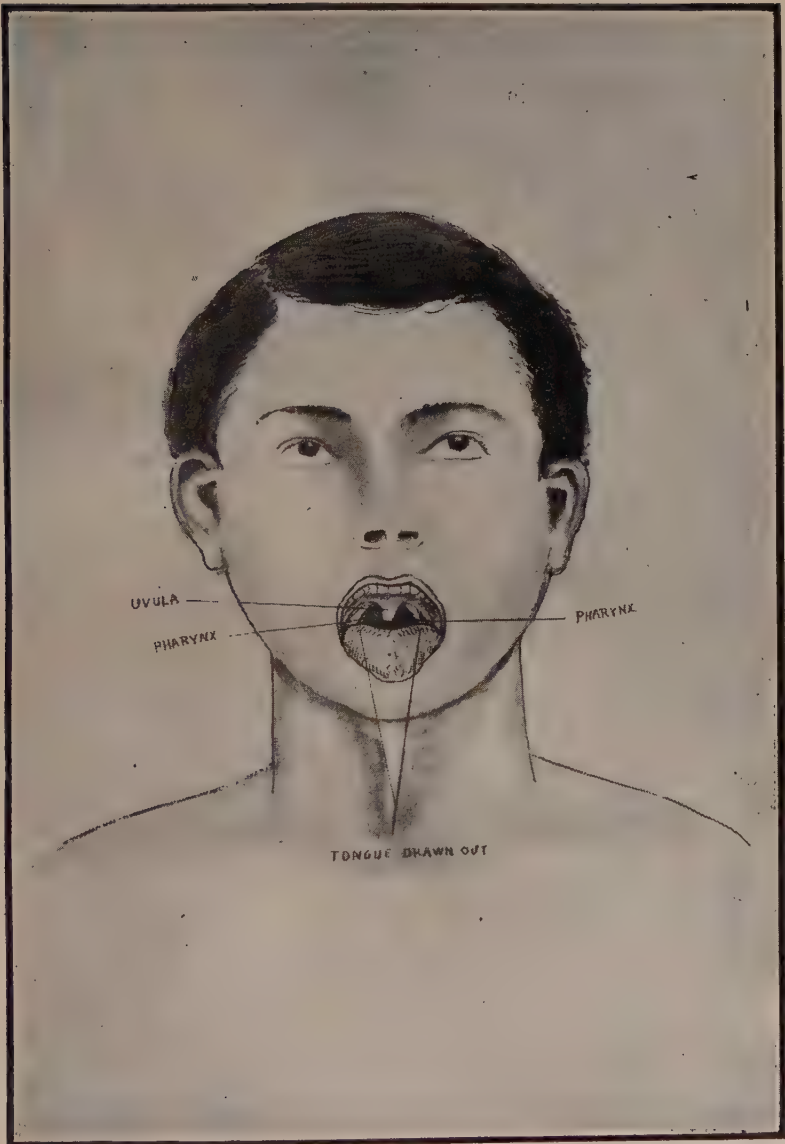
In this note we shall notice the different parts of the digestive tube and the accessory organs promiscuously, taking them up one by one as we move from the lips to the anus. Those parts that are quite familiar to everyone of us and that play little part in Yogic processes, will not be treated here at any length.

THE MOUTH—The digestive tube starts with the mouth. We can best study this part with the help of a mirror. Fig. LXXXVII will also be of some use in understanding matters. When we widely open our mouth, fully drawing out our tongue before a mirror, we notice a reddish delicate covering that lines its whole cavity. This is called *mucous membrane*. It is of the same nature as the skin which covers the external surface of our body. The only difference between the two is that mucous membrane is more delicate and soft than the skin. At the entrance of every orifice in the body, the skin is changed into mucous membrane. The mucous membrane which lines the cavity of the mouth, continues without any break up to the anus and thus covers every part of the digestive tube.

If we breathe out violently before a mirror with our mouth widely opened, we find that a portion of flesh in the roof of the mouth, moves up and down with the movement of our breath. This is called the *soft palate* in contrast with the *hard palate* which is formed of bones and which lies between the soft palate and the upper row of front teeth. If we run our finger across the whole palate, we immediately distinguish between the hard and soft parts of the roof of our mouth. Another thing which the image in the mirror presents to our sight is the pendent conical lump of flesh hanging from the middle of the posterior arch of the soft palate. It is the *uvula*.

THE SALIVARY GLANDS—Before we pass on to those parts of the digestive tube that lie above and behind the soft palate and also below and behind the tongue, we have to notice three important structures, on each side of the mouth, called the *salivary glands*. As they are imbedded in the flesh of the mouth, they are not available for superficial observation. We may, however, know their position accurately with reference to other parts of the mouth. The *parotid* gland is the largest of the three and is situated on the side of the face in front of the

Fig. LXXXVII



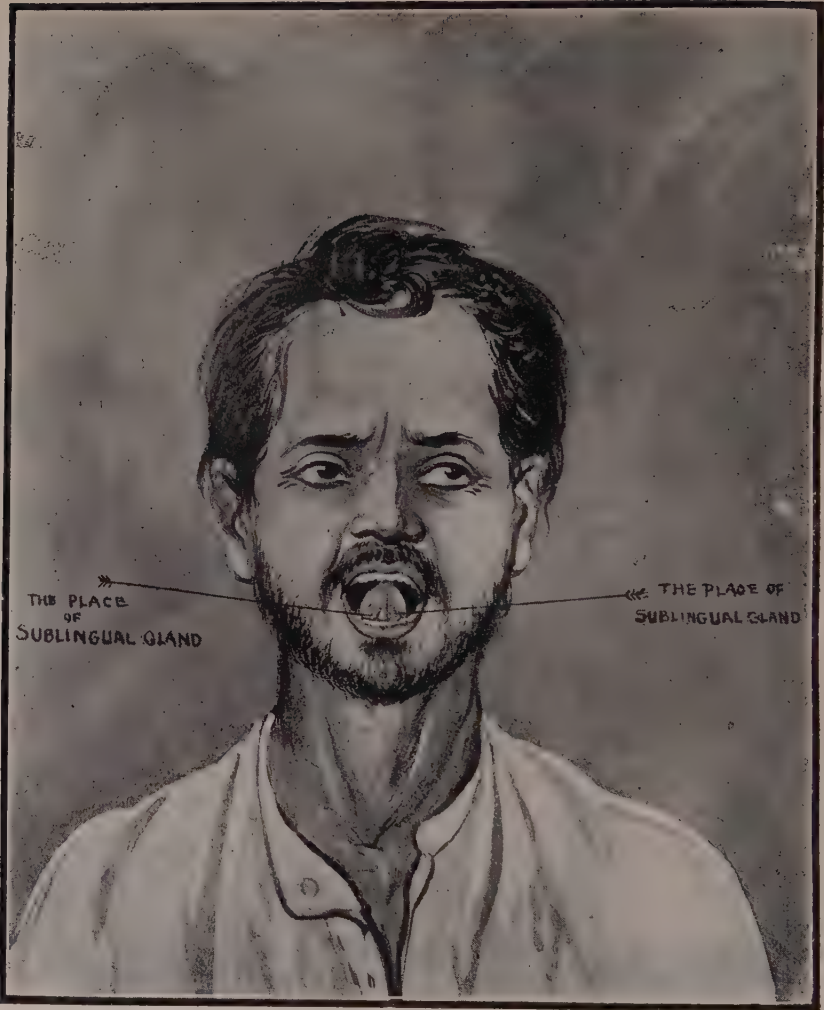
A View of the Pharynx with the Tongue Drawn out.

Fig. LXXXVIII



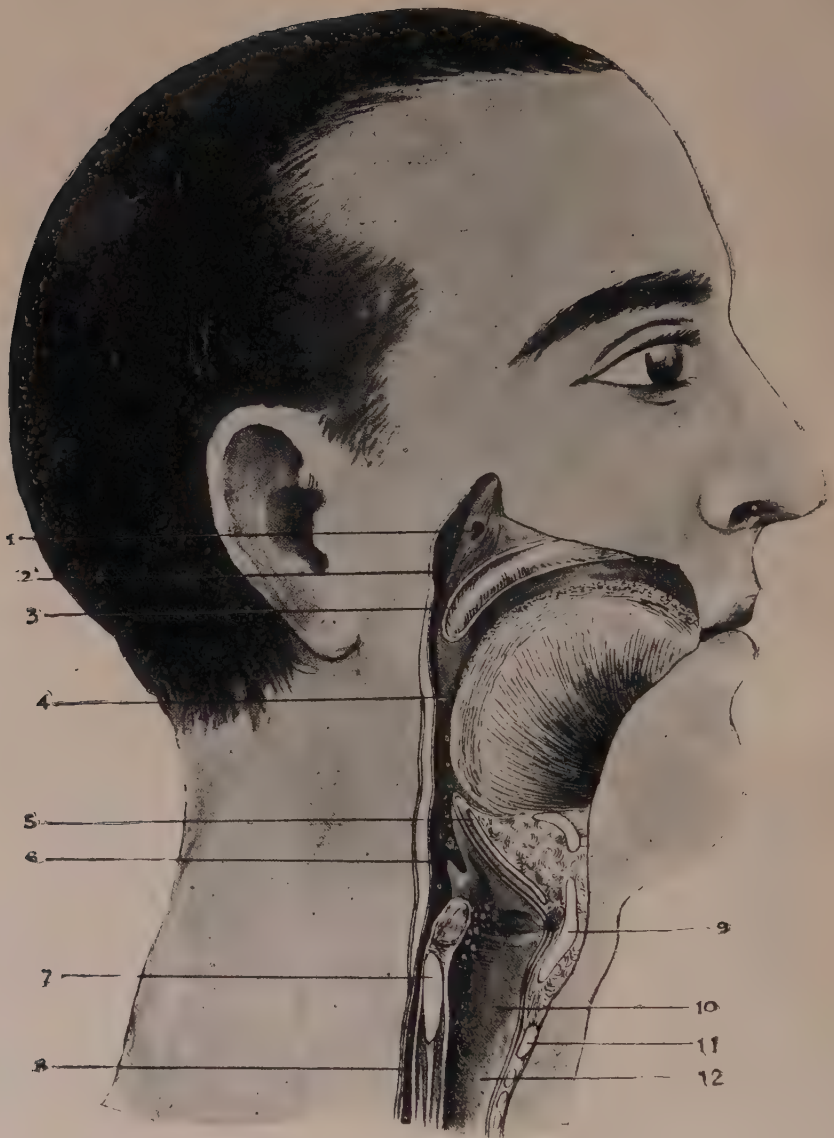
Parotid and Submaxillary Glands Exposed.

Fig. LXXXIX



The Place of Sublingual Gland.

Fig. XC



The Pharynx and the Œsophagus Exposed.

- 1 Orifice of the Auditory Tube. 2 Nasal Part of the Pharynx. 3 The Soft Palate.
4 Oral Part of the Pharynx. 5 The Epiglottis. 6 Laryngeal Part of
the Pharynx. 7 Cricoid Cartilage. 8 The Œsophagus.
9 Thyroid Cartilage. 10 The Larynx. 11 Cricoid
Cartilage. 12 The Trachea.

external ear and immediately below it. (Vide Fig. LXXXVIII). As shown in the same illustration, the *submaxillary* is located below and to the inner side of the lower jaw, in front of the angle of the jaw. The *sublingual* glands lie on the floor of the mouth, between the tongue and the gums. (Vide Fig. LXXXIX).

These glands manufacture a colourless liquid that has neither smell nor taste, called *saliva*. When food is being masticated quantities of saliva stream out from these glands and become mixed up with it. The same happens, though on a smaller scale, when a man is speaking. If the speaker becomes nervous these glands strike work and dry mouth is the result ! Saliva is useful in deglutition as it moistens the morsels while they are prepared for being swallowed. We shall study the use of saliva in digestion when we notice the physiology of the digestive tube.

THE PHARYNX—Looking again into the mirror with the mouth widely opened, we observe that there is something like a wall of flesh covered over with the mucous membrane stretching behind the tongue and the soft palate. This is the posterior wall of what is called the *pharynx*. (Vide Fig. XC). This wall arches above the soft palate in something like a dome. Below the tongue it descends in the form of a sack that ends in the œsophagus and the *larynx*. The pharynx lying above the soft palate is pierced by four openings. Two of these lead to the nasal passages which after a curved course end in the two nostrils. The other two form the mouths of the auditory tubes which run to the cavities of the ears. [Vide Vol. I, p. 134.] At the time of breathing an opening is left between the back wall of the pharynx and the soft palate which allows free passage to the air as it passes to and from the lungs. But at the time of swallowing or speaking the soft palate completely covers the upper part of the pharynx, so that neither food nor air can find its way upwards. In some persons, the soft palate

is defective, there being a small cleft in it. When these people attempt speaking, some of the air from the lungs escapes through this cleft above the palate; and finding its way through the nasal passages that are ever open, adds nasalized element to the voice.

The lower part of the pharynx ends in two tubes as has been stated above—the œsophagus and the larynx. Of these the œsophagus leads to the stomach and is a part of the digestive tube, whereas the larynx leads to the lungs through the trachea and has nothing to do with the alimentary canal. We shall notice the œsophagus presently; but before we do so, we shall see why food going down the pharynx does not run into the larynx and is always pushed down the œsophagus. For this purpose we have to refer to a small organ named *epiglottis*.

The epiglottis is situated at the root of the tongue (vide Fig. XC), and serves as a cover for the larynx in times of need. In the act of swallowing, the larynx is raised, and the descending morsel lowers the epiglottis which meeting the raised larynx completely covers its mouth. Thus the larynx being closed, food finds its way to the œsophagus or gullet. The rising of the larynx can be felt by anybody by placing his fingers on the middle of his throat and imitating the act of swallowing. If, however, through mistake, even a small particle of food gets the wrong way, we mean gets into the larynx, violent coughing ensues, the system forcibly trying to expel the intruder. Food does not get into the nasal part, because the soft palate completely shuts out that portion.

The mucous membrane covering the nose is continuous with the pharynx. It is also to be noted that it continues to cover all the passages leading from the pharynx. It is this circumstance which makes a trouble starting with the throat very often spread to the nose, ear and larynx. That is why running of the nose, deafness of the ear and coughing are on many occasions seen going together.

An anatomical illustration of a human torso from the neck to the waist, showing the internal organs of the digestive system. The trachea is shown as a vertical tube in the neck. The esophagus is a tube that descends from the neck into the stomach. The stomach is a large, sac-like organ with a curved shape. The duodenum is a long, coiled tube that connects the stomach to the small intestine. Labels with lines pointing to the organs include: TRACHEA, ESOPHAGUS, THE CARDIAC ORIFICE, LESSER CURVATURE, PYLORIC SPHINCTER, GREATER CURVATURE, DUODENUM, PYLORUS, and DUO DE NUM. The drawing is in a classic anatomical style with detailed shading and clear labels.

The Trachea and the Digestive Tube up to the
End of the Duodenum Exposed.

THE ŒSOPHAGUS—The Œsophagus is a downward continuation of the pharynx connecting it with the stomach. It is some 9 or 10 inches in length. The Œsophagus is situated between the trachea in front and the vertebral column behind it. The upper extremity of the gullet is situated opposite the sixth cervical vertebra. After traversing the thorax, it pierces the diaphragm opposite the tenth thoracic vertebra. The abdominal portion of the Œsophagus which lies below the diaphragm measures only less than an inch, and joins the stomach at the level of the eleventh thoracic vertebra. The opening by which the gullet communicates with the stomach is known as the *cardiac orifice*, because it lies on the side of the heart. (Vide Fig. XCI).

“The general direction of the Œsophagus is vertical; but it presents two slight curves in its course. At its commencement it is placed in the middle line; but it inclines to the left side as far as the root of the neck, gradually passes again to the middle line, which it reaches at the level of the fifth thoracic vertebra, and again deviates to the left as it passes forwards to the Œsophageal hiatus in the diaphragm.” The abdominal portion of the gullet which lies below the diaphragm is also sharply curved to the left. (Vide Fig. XCI).

The Œsophagus contains a thick layer of muscular fibres. A wave of contraction passing down the gullet pushes the food before it and leads it to the stomach.

THE STOMACH—The stomach is the most dilated part of the digestive tube, and is situated between the end of the Œsophagus and the beginning of the small intestine. The main bulk of the stomach lies under the left ribs. It is held between the diaphragm above, the intestines below and the liver on the right. The position of this organ, however, is constantly changing. It not only changes according to the quantity of food that it contains at a particular time, but it also differs according to the stage of digestion its contents

reach and the condition of the adjacent intestines. These three factors not only determine its position in the abdomen, but are responsible for changing its size also. A comparison between Radiographs IV and V will show what widely different positions can be given to the stomach. Although in the ordinary course of things the stomach does not change its position so greatly, yet the three factors stated above do shift it from place to place within narrow limits. As can be clearly seen in Radiograph IV, a fully distended stomach assumes J-shape.

The stomach has two openings. We have already made reference to the cardiac orifice which joins the œsophagus with the stomach. The other opening is called the *pyloric orifice*. By means of this the stomach communicates with the small intestine. It marks the lower end of the stomach and is indicated by a narrow circular groove of musculature known as the pyloric sphincter. The pyloric orifice lies to the right of the middle line at the level of the upper border of the first lumbar vertebra.

We have stated above that the stomach is only a dilated part of the alimentary canal. This dilatation starts with the end of the œsophagus and stops short with the beginning of the small intestine. Between these two points this dilated portion of the digestive tube lies in two curvatures: One on the right side of the stomach and the other on its left side. (Vide Fig. XCI). The peculiar shape of the stomach leads to a great divergence of lengths between these two curvatures, the left curvature being four or five times as long as the right one. Hence the curvature on the left is called the *greater curvature* and the curvature on the right is called the *lesser curvature*.

The wall of the stomach consists of different coats. They are four in number. We can take notice of the most important of these, namely, the muscular coat and the mucous coat. The muscular coat which stands in the middle is made of muscular

fibres which we cannot move by our will. That means they are of involuntary character, their movements being determined by the chemical nature of food and its quantity. From the beginning of the œsophagus down to the end of the rectum, the musculature of the alimentary canal is involuntary. After the food is swallowed by a voluntary effort of the pharynx, we have to leave it to the mercy of Nature. We cannot control it by the effort of our will. Under normal circumstances, however, Nature's work is prompt and unfailing. As soon as food enters the stomach its muscular fibres begin to contract and relax alternately, thus enabling the stomach to do its work.

The innermost coat consists of the mucous membrane. This layer is thrown into folds and thus a wrinkled appearance is presented by the inner surface of the stomach, as shown in Fig. XCI. The most important feature of the mucous coat is the presence of *peptic* or *gastric glands* which lie buried in the substance of the membrane. When food gets into the stomach, these glands become active and a sort of liquid streams out from them and is mixed with the food. This fluid is named the *gastric juice* as it is manufactured in the stomach. And as it helps digestion the glands which produce it are called *peptic glands*. A provision of rich blood supply has been made for these glands. When the stomach is empty, the glands are inactive and the blood flow is deficient; but as soon as food makes its appearance in the stomach, richer quantities of the blood automatically flow to the glands leading to their increased activity.

THE DUODENUM—We have seen above that the stomach opens into the small intestine by means of the pyloric orifice. This small intestine is a convoluted tube, extending from the pylorus to the ileo-cecal valve, where it joins the large intestine. It is about 22 feet long, and gradually diminishes in diameter from its commencement to its termination. It is contained in the central and lower parts of the abdominal cavity and is surrounded above and at the sides by the large intestine.

The small intestine is divided into three successive parts : the *duodenum*, the *jejunum* and the *ileum*. The duodenum is so named because its length is about equal to the breadth of twelve fingers, (Latin: *duodecim*, twelve), that is equal to some ten inches. It is the shortest, widest and the most fixed part of the small intestine.

The duodenum presents in its course a remarkable curve somewhat of the shape of an imperfect circle. According to the different positions of this curve, the duodenum is divided into separate parts only for descriptive purposes. The *superior portion* is about 5 cm. long. It begins at the pylorus and ends at the neck of the gall-bladder. (Vide Vol. I, p. 137). The *descending portion* is 8 to 10 cm. long, and descends from the neck of the gall-bladder, along the right side of the spine as low as the upper border of the fourth lumbar. The *horizontal portion* is about 10 cm. long. It passes from right to left, with a slight inclination upwards. The *ascending portion* is about 2·5 cm. long. It rises to the level of the upper border of the second lumbar, where it takes a sharp turn to end in the jejunum.

The superior part of the duodenum is somewhat movable, but the rest is practically fixed and is bound down to the neighbouring viscera and the posterior abdominal wall.

(To be continued)

THE RATIONALE OF YOGIC POSES

UP to now we have noticed, in the pages of this magazine the most important of the Yogic poses. Though only two of them have been studied at some length, the technique of nearly every pose mentioned in this journal has been detailed. We now propose, in this article, to examine the general principles underlying this part of Yogic Physical Culture.

As our research work is yet restricted to physiology and as we have not yet started collecting any experimental evidence on the objective side to substantiate Yogic claims in the field of psycho-physiology, our studies in this article will necessarily be limited to the physical culture and therapeutical sides of Yoga. We can only assure our readers that some of the Âsanas at least are capable of directly helping to rouse the spiritual forces, whereas there is not a single pose noticed in this journal that is not capable of indirectly leading to spiritual progress.

At the very outset it is to be made clear that the poses by themselves do not constitute the entire system of Yogic Physical Culture. They form only a fraction of it, though the fraction is greatly important. In order, therefore, to understand the rationale of Yogic poses, it is necessary not only to study the general principles underlying the Yogic system of Physical Culture as a whole, but also to have a hurried survey of the entire field of Physical Culture, noting the most salient points of comparison and contrast between the Yogic and non-Yogic systems.

A system of Physical Culture means a system of bodily exercises such as are denuded of all utilities or ulterior ends except those of physical development. The word *gymnastics* is very often used as an equivalent of the science of Physical Culture. To our mind Gymnastics is a wider term and includes exercises which may not belong to a *system* of Phys-

ical Culture. An example will make matters clear. If we take into consideration the exercises on the parallel bars, we find that they do belong to Gymnastics, but they do not belong to a system of Physical Culture. For, a system of Physical Culture requires the exercises to be so planned and organized as would develop the different parts of the body in their due proportion and as would also build every part of the human body. It is not sufficient for exercises to belong to a system of Physical Culture that they are capable of helping the growth of some parts of the bodily frame. Now if we take the parallel bars exercises, we find that they do help body building ; but it is only the upper part of the somatic frame that is developed and not the body as a whole. Hence the parallel bars cannot form a system of Physical Culture, although they do fall under Gymnastics.¹

The idea of the science of Physical Culture as it is described in the preceding paragraphs, is essentially a modern idea in the West. In ancient Greece and Rome body-building was, indeed, given the highest attention. The Greeks are more known for their philosophy than for their gymnastics. And yet physical culture was a veritable passion with them. Plato, one of the greatest Greek philosophers, considered weakness to be perilously near to wickedness and ugliness to sin ! But even by the ancient Greeks, physical culture was never studied by itself. It was always developed as a preparation for either games and sports or for military

1 It may be interesting here to note the controversy which raged in Germany over the parallel bars in the middle of the nineteenth century. From *The Royal Central Gymnastic Institute* established in Berlin under the joint control of the ministers of war and education, the bars, horizontal as well as parallel, were banished. This was due to the strictly scientific attitude towards physical culture on the part of the head of the Institute. As, however, the bars belonged to gymnastics as it was being developed in Germany, the patriotic feelings rose so high that a very long and bitter controversy ensued in which gymnasts, medical men and university professors took an active part. At last a commission of the most eminent medical men was appointed, and they declared that the bar exercises *from the medical point of view* should not be excluded. It is to be borne in mind, however, that the commissioners did not declare the bar exercises to form a system of physical culture.

training. The athlete had always his eyes directed to the Pan-hellenic and especially to the Olympic games or to the fields of battle where he would fight in honour of his motherland. The ancient Romans were emphatically a military race. Hence gymnastics formed only a humble part of the science of war. From this it will be clear that in ancient Europe physical culture was never studied as a science in itself. It was only in the beginning of the last century that physical culture began to be cultivated as an independent science, advocating systems of exercises that would constitute entire schemes for body-building complete in themselves.

Things obtaining in ancient India were not much different from those prevailing in ancient Europe. Here too body-building does not look to be practised for itself ; but it generally prepared the gymnast either for games or for war. The very word *Malla-Vidyâ* which is commonly used to denote gymnastic exercises, means the science of wrestling. To the best of our knowledge, in ancient Saṅskṛita literature, there is no mention of an independent science taking care of body-building as such.

We cannot, however, afford to pass over one circumstance which may go against what we have said in the last paragraph. In non-medical Saṅskṛita literature there are references to *physical exercise* undergone as a daily routine independent of wrestling or any other game. It is called *Vyâyâma* which literally means *stretching*. This fact creates a strong suspicion in favour of the ancient Indians, crediting them with having a system of Physical Culture in the modern sense of the word. The suspicion grows almost into conviction when we look to the medical texts referring to bodies built through *Vyâyâma* as being immune from diseases. These texts also speak of *Vyâyâma* independent of *Malla-Vidyâ*. The traditions of all the gymnasiums in India also strengthen this conviction. A fairly large number of students

in Indian gymnastic institutes goes there simply for body-building, and never undergoes any training in games or sports.

What we have said in the last two paragraphs pertains to non-Yogic physical culture. Although we could not say anything very definitely in this connection, we have precise information bearing on Yogic Physical Culture. But before we pass on to it, we have to make a brief reference to a type of exercise which is nowadays paid much attention to in Mahârâshṭra and which is claimed, by its advocates, to be an entire system of Physical Culture. We mean the *Namaskâras* or prostrations before the Sun-god. This system of exercise has been in vogue in Mahârâshṭra at least for a few centuries and is very much favoured by the upper classes of the society. In the eighteenth century it was not unusual to find youths making as many as twelve hundred prostrations every morning. Among such youths were to be seen some of the Brâhmaṇa rulers of the land. In athletic tournaments recently held in Nâsika, there were competitors for as many as two thousand prostrations. Now as these prostrations form a part of Sun-worship, they can never be looked upon as a system of Physical Culture in the modern sense of the word, for the moderners require such a system to have no other end except that of body-building.

Coming to Yogic exercises for physical development, we have at once to admit that they were never meant for body-building exclusively. They were always prescribed for so training the body as would easily lead to spiritual development and would sustain the working of the spiritual forces when roused. Physical culture was invariably with the Yogins a step to spiritual culture. Hence if any of the Indian systems of Physical Culture least approaches the modern idea of the science, it is the Yogic system.

Even in India—the home of Yoga—supreme ignorance prevails, especially in the educated circles, about Yoga in general and *Hatha-Yoga* in particular. The latter is looked

upon as merely physical, having no spiritual counterpart at all ! Nay, some of the critics go so far as to assert that Haṭha-Yoga runs counter to spiritual life !! This radically wrong conception of Haṭha-Yoga is due to the want of direct knowledge either of the Yogic literature or of the Yogic tradition. No student of Yoga can take even his first lessons without undertaking to discipline his mind through Yamas and Niyamas. Even a Haṭha-Yogin cares for his body simply because it is the only instrument through which he can reach his spiritual goal. We have to request our readers, with all the earnestness we can command, not to build their theories on the imperfect or misleading evidence obtained from mock-Yogins who, like depraved tumblers, eke out a living by prostituting some of the physical exercises in Yoga.

So the fact is that the body-building exercises of Yoga never formed a system of Physical Culture in the modern sense of the word, as they were always designed for spiritual rather than for bodily development !

Here naturally the question arises as to why, in spite of the fact stated above, the *Kaivalyadhâma* is trying to evolve a Yogic system of Physical Culture. We are going to take up this very question. But before we do so, we have to say a few words by way of further introduction.

Though the idea of physical culture as stated above is of modern growth, it does not mean that the physical culturists of today have created something altogether independent of the body-building exercises of the ancient people. The European and American systems of Physical Culture are a steady evolution of the Greek and Roman exercises. True, many features of the modern systems were totally absent from those of the olden days. True also, the striking advance made by anatomy and physiology during the last century has given physical culture a scientific air and completeness such as were never enjoyed by it before. But this does not disprove the fact that the

modern systems of Physical Culture are a slow and systematic growth of the ancient bodily exercises obtaining in Greece and Rome.

What applies to Europe and America also holds good in the case of India. Here too physical culturists are busy developing different systems of body-building. In the absence of wild advertisement of the Western type, these systems have not yet attracted much attention of the Indian nation as a whole, and are naturally little known to people outside India. No serious attempt has yet been made to expound these systems by their founders. Some stray articles do appear here and there in the vernacular; but an orderly exposition is still to be undertaken for teaching these different systems of Indian Physical Culture. It is to be noted, however, that everyone of these has its sphere of influence which in some cases is markedly extensive.

These Indian physical culturists also are freely using the material handed down by ancient tradition, for building up their respective systems. Knowledge of anatomy and physiology is largely utilized and the Western advance of physical culture is also taken into account. Already the traditional exercises for bodily development were scientifically sound—much more sound than the modern scientific mind would ever suspect. Hence the edifice erected on this foundation is also likely to be sound. Among the non-Yogic systems of Physical Culture the one that makes the nearest approach to a scientifically sound method, is the system founded by Prof. Manikrao of Baroda, at whose feet we had the proud privilege of sitting for our lessons in non-Yogic physical culture, and to whose parental care we owe much that has made us what we are now.

Just like the Western physical culturists the Indian founders of the different systems of Physical Culture, have freed the science from all ulterior ends and have placed it on an independent footing. The advocates of Namaskâras have,

indeed, imported much from outside into their system; but as they have tried to accomplish everything within the narrow compass of one exercise and as they want to ever tack that exercise on to Sun-worship, there is little chance of their system ever being accepted as a system of Physical Culture in the modern sense of the word.¹

This brief statement of the position of physical culture in olden and modern times, clearly shows that the science is being reconstructed in India as in the West. Attempts are being made to place it on an independent footing and to make it as complete as possible.

Even a cursory study of the modern progress of this science will bring into relief a few developments which cannot fail to attract the attention of the students of Yoga.

(i) Every day the utility of breathing exercises is being realized to a greater and greater extent.

(ii) Of all the systems working in the body the nervous system is recognized to be the most important.

(iii) The spinal column is being assigned its legitimate place in the scheme of bodily exercises.

(iv) A feeble but marked reaction has started against the disproportionate attention paid to muscle by physical culturists.

(v) Exercises are being devised to preserve and promote the health of endocrine glands.

Now the Yogic tradition in India has very very emphatically laid stress upon these very features of body-building for more than a score of centuries. True, the Yogins of old built their bodies simply to prepare themselves for spiritual life. But this does not deprive their exercises of the credit of being based on scientific principles the significance of which the modern physical culturist is but slowly realizing now. The

1 This statement has been made from a particular point of view and as such should not lead to misunderstanding. The exercise of Namaskâra, as it is being developed by its advocates, has a definite purpose to serve and has certainly a large scope in India. We wish them success from the bottom of our heart.

western founders of the different systems of Physical Culture are, indeed, busily engaged in devising exercises for the spine, nerves and endocrine glands. But an impartial study of their attempts has convinced us that their exercises are, at best, a poor copy of the marvellous exercises of Yoga.¹ By using the word *copy*, we never want to suggest that they are borrowing their exercises from Yoga. Almost all of them do not even mention the name of Yoga. And a few of them that mention it, give little credit to the Yogic system. We take all of them to be honest people acting up to their convictions. But when we go through the pages of their books and magazines, we come across exercises which are so strikingly similar to the Yogic exercises, that we cannot help noting the similarity and calling one the copy of the other. We may, however, put the matter in the form of another remark, the truth of which, we are sure, we will be able to prove up to the hilt. The Western physical culturists have invented exercises for the development of the spine, nerves and endocrine glands, which were anticipated, centuries before, by the Yogic seers, and which are far from reaching the efficacy of the Yogic exercises available for the same purpose.

The Indian physical culturists, including the advocates of Namaskâras, have tried their best to take advantage of their knowledge of Yoga. Everyone of them is very particular in publicly declaring that his system has been based on Yogic exercises. Some of them even go to the length of warmly maintaining that their systems are composed purely of Yogic exercises. Of late, in Mahârâshṭra, there is not a single gymnastic institute worth the name, that does not undertake to

1 We are sincerely sorry for making this statement here. We are sorry not because the statement is hasty, nor yet because it is inaccurate; but simply because it is come too early so far as our publication of the evidence supporting it is concerned. We shall require years before we fully place before the public the evidence that we have collected even up to now. Every year our labours are largely adding to the original stock. We have to request our readers, therefore, not to take the statement on trust but to wait and scan our evidence as we produce it; and accept the truth of the statement only when they are convinced,

teach Yogic Âsanas. We are greatly pleased to see this attitude of the Indian physical culturists towards Yoga. But we are sorry to say that in most of the cases the fundamental principles underlying the Yogic system of Physical Culture are but imperfectly understood, and the combination of Yogic and non-Yogic exercises that these people are attempting, is something far from being scientifically satisfactory. As, however, the Indian physical culturists are maintaining a reverential attitude towards Yoga, there is every possibility of their one day fully and rightly utilizing the extremely valuable material available in Yogic culture.

Even at the risk of being a little irrelevant, we wish to say a few words to the physical culturists of India. Barring a few honourable exceptions, they are not as well equipped with the knowledge of modern sciences necessary for their work, as the Western people labouring in the same field are. The Western physical culturists are, day by day, bringing themselves into a closer touch with medical science, psychology, sociology, etc.; and the thoroughness with which they work, deserves our best congratulations. Their restless industry and untiring patience are virtues worth anybody's imitation. If all the physical culturists in India work with the patience, industry and thoroughness of their Western brethren, Indian systems are sure to shine with greater glory, and come to occupy their legitimate positions among the systems of the world.

In the discussion preceding the last paragraph two points have been made out :

(i) The science of physical culture in the modern sense of the word, is of recent growth in the West and most probably also in India. In making it independent and self-contained, it is being freed from its dependence upon games, military training, etc.

(ii) In its reconstruction which is going on everywhere, it is tending to emphasize features which are characteristic of Yogic system of Physical Culture.

We are quite conscious that two questions must have been repeatedly troubling a sceptic reader of our journal and especially of this article. They are—

(i) Whether the traditional *Yoga-Vidyâ* had any system of Physical Culture according to the modern idea of the science?

(ii) Whether evolving a Physical Culture system out of the traditional *Yoga-Vidyâ*, is not prostituting the latter?

In one of the foregoing paragraphs we have very frankly admitted that the body-building exercises of Yoga never formed a system of Physical Culture in the modern sense of the word. This admission should not, however, be construed to mean that the Yogic exercises are not capable of being organized in such a way as would yield a self-contained and independent system of Physical Culture. After disposing off the second question raised above, we propose first to give a list of Yogic exercises that would go to form an entire system of Physical Culture, even in the modern sense of the word. We shall then notice some of the principles upon which an ideal system of Physical Culture should be based. And lastly we will examine the Yogic exercises, with a special reference to *Âsanas*, and decide whether most of these principles underlie the Yogic exercises and whether these exercises have a claim to constitute a system of Physical Culture.

The second question we answer emphatically in the negative. To take advantage of a part of *Yoga-Vidyâ* for a lower ideal is certainly not prostituting it. Picking up a few exercises and practising them for physical culture exclusively would not bring into discredit the science of Yoga. On the contrary it should set a premium upon it. In our extensive therapeutical work in the field of Yoga, we have invariably seen that the patient's faith in Yoga as a system of spiritual culture is greatly strengthened by the bodily advantages he derives. We would be doing a definite disservice to Yoga,

if we degrade the whole of it merely to a system of Physical Culture or therapeutics. But so long as we are ever emphasizing the fact that the Yoga is principally a system of spiritual culture and only incidentally a system of Physical Culture, there is no danger of our debasing the science.

Again when we see the imperfect attempts of Indian physical culturists to draw upon Yoga in developing their systems, we think it to be our duty to make a scientific attempt to evolve a Yogic system of Physical Culture and help our brethren that have already started the work. This attempt, if successful, will avoid much misunderstanding that prevails today, owing to a wrong use of Yogic exercises.

In formulating the scheme of Yogic Physical Culture we would fix upon the Yogic exercises irrespective of their spiritual value. Only their physical utility would be taken into account. The following exercises would constitute a self-contained system of Physical Culture.

Āsanas:— 1 Śīrshâsana, 2 Sarvâṅgâsana, 3 Matsyâsana, 4 Halâsana, 5 Bhujaṅgâsana, 6 Śalabhâsana, 7 Dhanurâsana, 8 Ardha-Matsyendrâsana, 9 Paśchimâtâna, 10 Mayûrâsana, 11 Śavâsana.

Bandha:— 1 Uḍḍiyâna.

Mudrâ:— 1 Yoga-Mudrâ.

Kriyâs:— 1 Nauli, 2 Kapâlabhâti.

Prâṇâyâmas:— 1 Ujjâyî, 2 Bhastrikâ.

This is a complete scheme of Yogic Physical Culture. Having named the exercises we now proceed to see what an ideal system of Physical Culture should be, so that we shall be in a position to examine these exercises in the light of our ideal and understand their merits and demerits. During this examination we shall make a special effort to understand the principles underlying Yogic poses.

(To be continued)

*Following diseases, especially in their chronic condition,
can be effectively treated by the Yogic methods :*

- 1 Constipation.*
- 2 Dyspepsia.*
- 3 Headache.*
- 4 Piles.*
- 5 Heart-disease (functional).*
- 6 Neuralgia.*
- 7 Diabetes.*
- 8 Hysteria.*
- 9 Consumption.*
- 10 Obesity.*
- 11 Sterility (certain types).*
- 12 Impotence.*
- 13 Appendicitis, &c.*

*Therapeutical advice is given gratis at the Âśrama to
patients coming for consultation.*

*Arrangements have been made under the supervision of the
Âśrama for patients to stay on payment of actual expenses,
Rs. 45/- per mensem.*

The Popular Section

The Director of the Kaivalyadhâma is ever willing to help those who are in earnest about their spiritual advancement, as he confidently feels that this help will in a way help his cause.

Fig. XCII



Nâsâgra-Dṛishti or the Nasal Gaze.

NÂSÂGRA-DRISHTI

or

THE NASAL GAZE

Fixing one's eyes upon one's tip of the nose is called Nâsâgra-Drishṭi in Saṅskṛita. Nâsâgra means the *tip of the nose* and Drishṭi means *gaze*. It is illustrated in Fig. XCII. It may be practised as a part of Padmâsana¹ or independent of it. In the accompanying picture, the head is a little thrown backwards with a view to make the position of the eyeballs visible.

The Nasal Gaze is a fine exercise for the wandering mind. Its practice if undertaken with zest and carried over a period of some months continuously, has a perceptibly beneficial effect upon the unsteady mind.

Caution—The Nasal Gaze directly works upon the brain through the optic nerves. Everybody should, therefore, develop this gaze very slowly and cautiously. Persons with weak nerves are warned not to undertake this practice except under expert supervision.

Note—Two Drishṭis and three Bandhas are a part of the technique of the meditative poses. We are giving in this number a description of these Drishṭis and Bandhas, with a view to enable our readers to follow the technique of the Âsanas without any interruption. Out of three Bandhas Uḍḍiyâna-Bandha has already been explained in the first volume of this journal. (Vide pp. 9-10).

1 Described later on in this Section.

BHRÛMADHYA-DṚISHTĪ

or

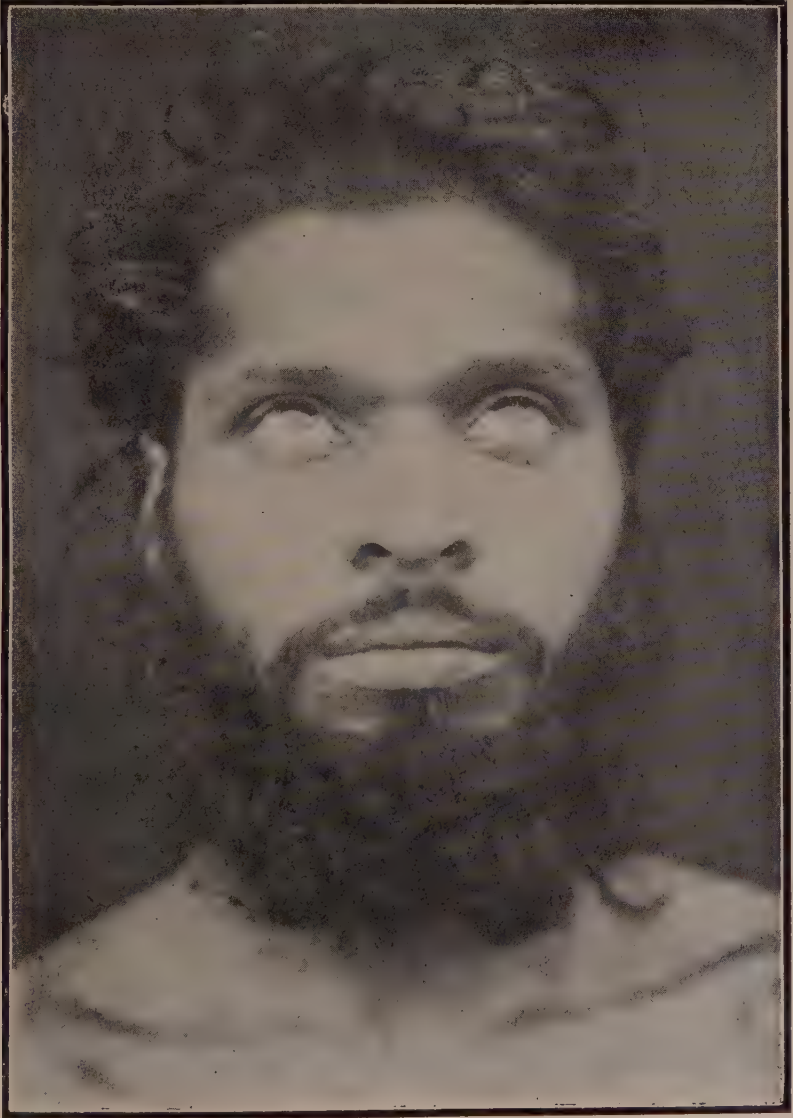
THE FRONTAL GAZE

Fixing one's eyes between the eyebrows is called Bhrûmadhya-Dṛishtī in Saṅskṛita. Bhrûmadhya means the *space between the eyebrows*. This Dṛishtī is illustrated in Fig. XCIII. It may be practised as a part of Siddhâsana¹ or independent of it.

Like the Nasal Gaze, the Frontal Gaze is a fine exercise for the unsteady mind. The advice and caution given in the case of the former are equally applicable to the case of the latter. Hence they should be carefully borne in mind by the enthusiastic student of Yoga.

¹ Described later on in this Section.

Fig. XCIII



Bhrûmadhya-Dṛishti or the Frontal Gaze.

Fig. XCIV



Jalandhara-Bandha or the Chin-Lock,
(Front View)

Fig. XCV



Jalandhara-Bandha or the Frontal Gaze,
(Side View)

JÂLANDHARA-BANDHA

or

THE CHIN-LOCK

Jâlandhara-Bandha requires the chin to be closely pressed against the chest. For doing this the chin is to be tightly set in the jugular notch with the necessary bent of the neck and the head. This has been shown in the pictures of Padmâsana and Siddhâsana given in this *Section* later on. According to some traditions, however, the chin is not set in the jugular notch, but pressed against the chest further down about four fingers below it. Figs. XCIV and XCV illustrate this Bandha.

The Chin-Lock may be practised as a part of Padmâsana and Siddhâsana or independent of them.

This Bandha exercises an upward pull upon the spine and *most probably* upon the spinal cord, and thus works upon the brain. The Yogic tradition traces the name Jâlandhara-Bandha to this circumstance ; the word Jâla referring to the brain and to the nerves passing through the neck, and Dhara denoting the upward pull. Is it possible for the name of the Bandha to be taken from the great Yogin Jâlandhara, who was, perhaps, its inventor, or, at any rate, its famous exponent?

MÛLA-BANDHA

or

THE ANAL CONTRACTION

Mûla-Bandha is an exercise which *mainly* consists in forcibly contracting the anal sphincters. It also requires the perineum to be closely pressed by the heel, as illustrated in Fig. XCVIII and as described later on in this *Section* in the technique of Siddhâsana.

Mûla-Bandha may be practised as a part of Siddhâsana or independent of it.

There are two anal sphincters, one internal and the other external, situated at the end of the rectum. Both are formed by circular muscles, the external sphincter constituting the anus.

Although the anal contraction alone goes to form Mûla-Bandha, in contracting the anus one necessarily contracts the whole pelvic region. Hence virtually Mûla-Bandha is an exercise of pelvic contraction.

Mûla-Bandha is intended to work upon the central and sympathetic nervous systems through the nerve terminals in the anal sphincters. It is called Mûla-Bandha because it first concerns itself with the lower ends of the nervous system in the human trunk.

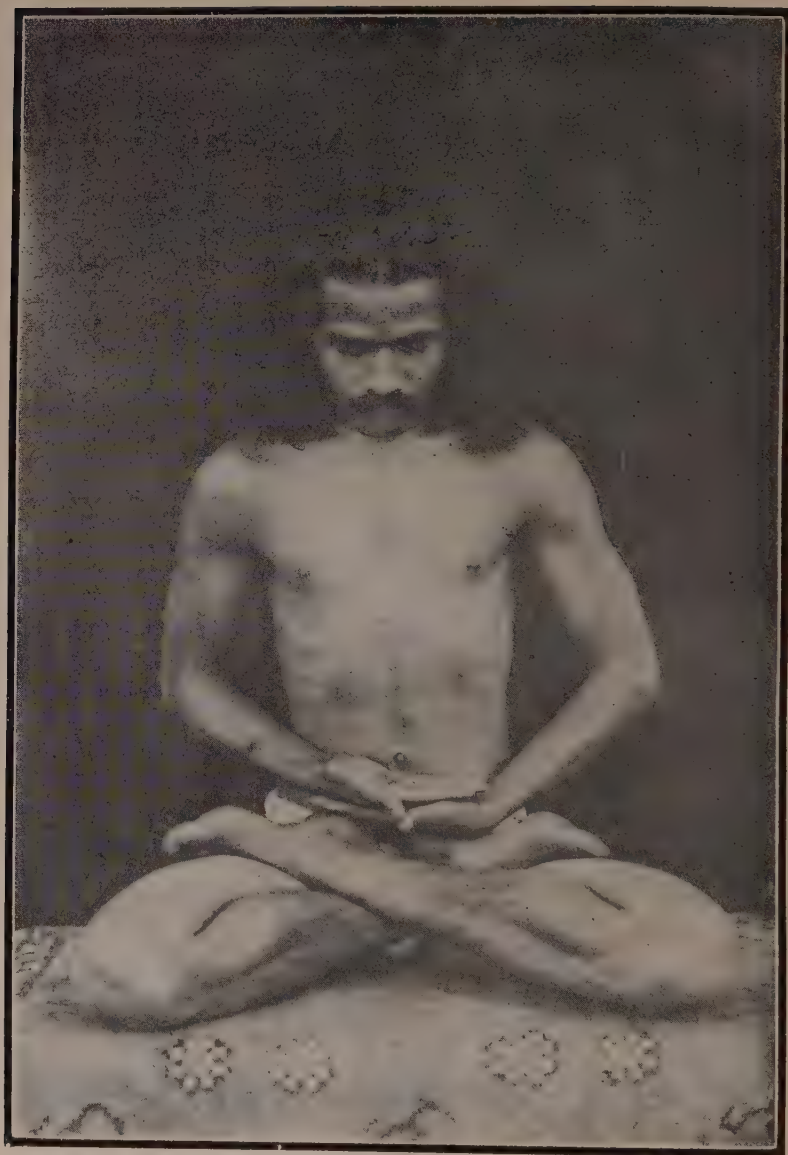
Caution—A mistake in the practice of this Bandha leads to hard constipation and upsets the digestive system. The genitals are also involved in this contraction and a mistake in its execution may result in some trouble in that direction also. Hence students of Yoga are advised to proceed systematically into this practice,

Fig. XCVI



Preparation for Padmāsana.

Fig. XCVII



Padmāsana or the Lotus Pose.

(Front View)

PADMÂSANA

or

THE LOTUS POSE

THE NAME :—

The pose is called Padmâsana because it is in imitation of the lotus that the hands and feet are arranged in this Âsana. Padma, in Saṅskṛita, means a *lotus*. Possibly the two feet placed on the opposite thighs represent the lotus leaves, and the two hands arranged one above the other stand for the blooming lotus. Fig. XCVII illustrates the full pose.

THE TECHNIQUE :—

The student first takes his seat with his legs fully stretched out. He then bends his right leg in the knee-joint; and folding it upon itself, sets the same in the opposite groin, so as to make the foot lie stretching at the root of the thigh with its sole upturned. (Vide Fig. XCVI). The other leg is similarly folded and set in the opposite groin. Both the heels he adjusts in such a way that they almost meet in front of the pubic bone and each of them presses on the abdominal portion adjacent to it. (Vide Fig. XCVII). Then on the heels thus brought together, the left hand is spread out with its back touching the heels and its palm turned upwards. The right hand is placed upon the left in the same manner. The eyes are directed to the nose-tip as described on p. 221; and the Chin-Lock is formed after the manner indicated on p. 223. With the Anal Contraction treated on p. 224, the technique of the Lotus Pose is completed. It is needless to add that except for the neck, the spine is to be maintained erect.

The most important features of Padmāsana are the two Bandhas—Jālandhara and Mūla. As these are to be cautiously practised, it is always desirable, for the student of Yoga, first to pick up the Bandhas and then start with this pose.

CAUTION :—

In India many people are desirous of sitting in Padmāsana for their daily prayers. We advise these people to assume the Lotus Pose without the Bandhas, if they have not already picked them up successfully. When practised without Bandhas, this Āsana may be continued for any length of time provided one can sit in it all the while without any sense of discomfort. The advice and caution given in the technique of these Bandhas, also hold good in the case of Padmāsana, if the student is anxious to go through the complete technique of this posture.

POINTS OF STUDY :—

(a) *Muscles :—*

All over the lower extremities, the flexors are greatly contracted and pressed.

(b) *Blood-vessels :—*

This circumstance coupled with the passive condition of all the muscles of the lower extremities maintained for a considerably long time, interferes with the free current of blood circulation. That being the case, the pelvic region gets a larger blood supply from the bifurcations of the abdominal aorta.

(c) *Nerves :—*

The larger blood supply mentioned above tones up the coccygeal and sacral nerves.

The same advantages can be claimed for all the meditative poses.

Fig. XCVIII



Preparation for Siddhāsana.

Fig. XCIX



Siddhâsana or the Accomplished Pose.

(Front View)

SIDDHÂSANA

or

THE ACCOMPLISHED POSE

THE NAME :—

The pose is called Siddhâsana because it is a favourite of the accomplished Yogins. Siddha, in Sanskrita, means an *adept*.

THE TECHNIQUE :—

The student first takes his seat with his legs fully stretched out. He then bends his left leg in the knee-joint; and folding it upon itself, sets its heel tightly against the perineum. (Vide Fig. XCVIII). In order to get the perineum clear for this purpose, he has first to hold up his genitals with the left hand, for the right hand is occupied in setting the heel in its proper place. The sole of the left foot should be closely in touch with the right thigh. No attempt should be made to sit on the heel. That is a wrong procedure, because pressure is to be exerted on the perineum and not on the anus. The adjusted heel should feel the hard touch of the bones on the two sides of the perineum. After the left leg is given its proper position, the genitals should be arranged within the space available between the left thigh and the left calf. This being done the right leg should be folded after the manner of the left, its heel being placed against the pubic bone just above the penis. (Vide Fig. XCIX). The right sole should spread along the left thigh, the lower border of the right foot being thrust between the left thigh and the left calf. Care must be taken not to hurt the genitals. Generally they can be accommodated below the right heel. But if

they cannot find sufficient space there, the testes may be lodged there and the penis may be made to lie outside the folded legs. Under no circumstances undesirable pressure should be put upon any of the organs concerned.

The chin is set against the chest, just as in Padmāsana, to form Jālandhara-Bandha. The eyes, this time, do not, however, gaze at the tip of the nose ; but are directed between the eyebrows, as described on p. 222, securing Bhrûmadhya-Dṛiṣṭi for the student. Except for this bent of the neck the spine is to be erect.

The hands and fingers may be arranged to form Jn'âna-Mudrâ¹ as shown in Fig. XCIX or the hands may rest on the knees, touching them with their palms.

The pose should be developed gradually avoiding every possibility of uncomfortable pressure. The period of time given to its daily practice should increase slowly.

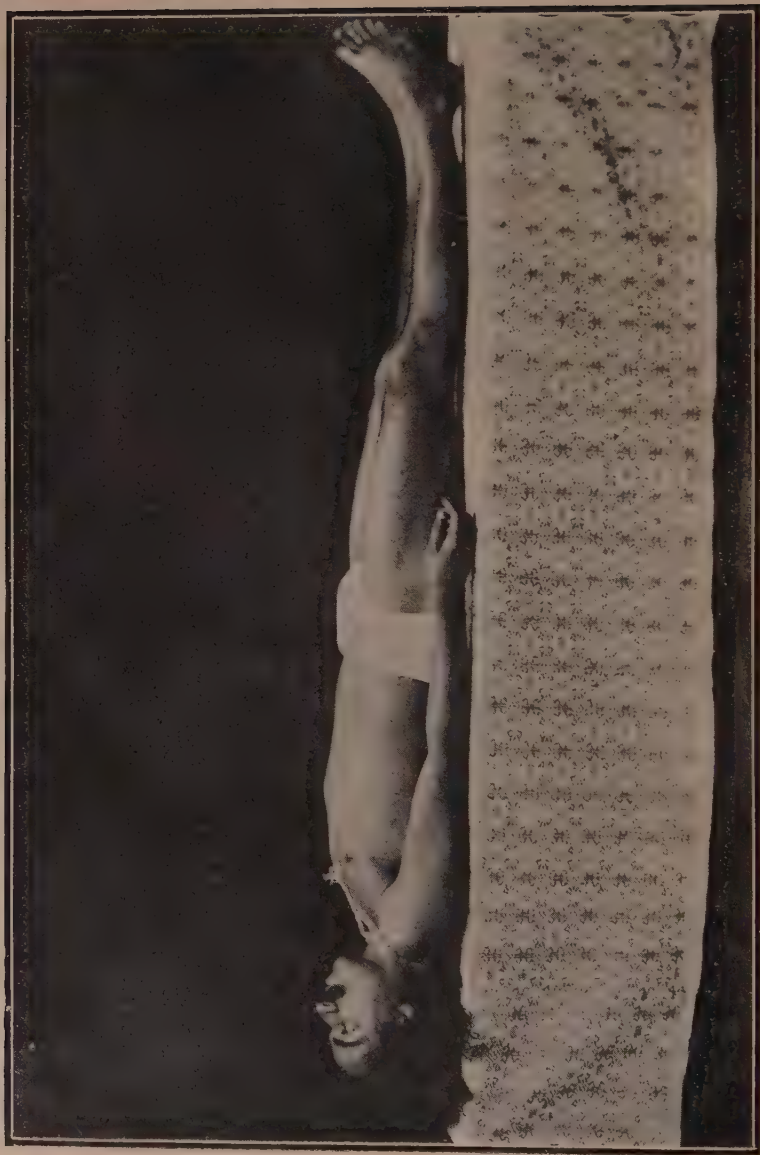
NOTE—

In some of the vernacular books on Yoga, the pose is said to affect the sexual powers adversely. So far as our experience goes, there is little evidence in support of this view, in the case of healthy persons. It is, however, desirable not to exceed an hour's practice, without special permission of an expert.

This and the preceding Âsana are principally practised for spiritual culture. When rightly advised they are also available for purposes of physical culture and therapeutics.

¹ Jn'âna-Mudrâ or the *Symbol of Knowledge* is practised in the following manner. The palms are fully stretched out and the tip of the index finger, that is, the finger next to the thumb, is made to touch the tip of the thumb of the same hand. In this action, it is the forefinger that is bent to meet the thumb, the latter advancing a little, no doubt, to meet its fellow,

Fig. C



Śavāsana or the Dead Pose.

ŚAVÂSANA

or

THE DEAD POSE

THE NAME :—

The pose is called Śavâsana, because it requires complete relaxation of the muscles as in the case of a dead person, whose position the Yogic student is made to imitate in the practice of this posture. In Saṁskṛita Śava means a *dead body*.

THE TECHNIQUE :—

The technique of Śavâsana is simple to understand, but somewhat difficult to practise. It is as follows : The student is to lie on his back, as shown in Fig. C ; and fully relax his muscles. It is to be noted here that our muscles remain slightly contracted even when we lie down for rest in a waking condition. Even this slight contraction is to be avoided in the Dead Pose. This requires an effort of will and concentration a little. The student should take a particular part of the body and thoroughly relax its muscles. Then he should concentrate upon that part and imagine that every muscle tissue in that part is further relaxed and is, as it were, collapsing. Constant practice of this procedure will enable the student to bring about full relaxation of different muscles.

Ordinarily he should start with relaxing the thorax. The abdomen should be taken up next. The lower and upper extremities should follow the abdomen, and the brain should come up last. The eyes are to be kept closed. Those who can concentrate themselves even without shutting their eyes (although this is an extremely difficult job), may keep them open, however.

While trying to relax the different parts of his body, the student should attempt relaxation of more than one part conjointly, so that he can ultimately succeed in relaxing all the parts of his body at one and the same time. Complete relaxation of the whole frame is the final aim of Śavâsana.

When the student succeeds in simultaneously relaxing every tissue of his body, he should continue concentrating upon the relaxed tissues for some time. This completes the first part of the technique of Śavâsana.

In the second part while maintaining the bodily relaxation already secured, exclusive attention is to be paid to the regulation of breath. Śavâsana aims at introducing rhythm in the flow of breath. This rhythm can best be introduced through the following stages.

The First Stage :— This stage consists in observing one's breath as it flows out and flows in. No attempt is to be made to control it either in volume or in length of time. Breathing should be allowed to have its own way. This practice of observation is to be slowly developed. To begin with, only two or three minutes may be given to it. Afterwards the time should increase to ten minutes. During this as well as during the next two stages, the mind will always have a tendency to wander. This tendency is not only to be checked, but is to be completely overcome. Whole-hearted perseverance in practice across a good length of time is the only path that surely leads to concentration.

The Second Stage :— In about a fortnight's time, the student will find that the breath as it ordinarily flows is irregular. Not only the inhalation and exhalation are unequal, but each is not very uniform in itself. This uneven and irregular breathing is often responsible for

ill-health and needs improvement. So the outgoing and incoming breath should be made to occupy the same length of time. This is best done by lengthening the shorter breath and shortening the longer one. No effort should be made to increase the volume of each respiration, however. A rhythmical flow is all that is wanted. The second stage may be practised for nearly quarter of an hour every day. In the beginning a sense of suffocation may be experienced but it will soon disappear.

The Third Stage :— In a month or so the student will feel very comfortable at the rhythmical breathing. He should then try to increase the volume of his inhalation and exhalation by drawing slightly deeper breaths and letting off air proportionately. No violence is to be practised. Breathing is to be as smooth and slow as before, only the breaths are to be very slightly deeper. All the while the mind is to be concentrated upon the moving breath.

The practice of rhythmical breathing is not as easy as it looks to be at the first sight. The most difficult part of it is concentration. Patient work, however, must enable a student to achieve success. There should be no hurry in going through the successive stages. The second stage should not be begun unless and until one has mastered the first. The same is true about the third and the second stage.

CAUTION :—

Rhythmical breathing should be developed very cautiously. It involves an amount of mental strain. Under no circumstances is this strain desirable. Everything should be comfortable and pleasing. Even after some practice, not more than ten minutes at a time are allowed for patients with weak nerves, although healthy

persons may devote as much time to it as they please. The practice may be repeated twice or even thrice a day.

A physical culturist can satisfy himself with the first part of Śavāsana, that is, with the relaxation of his muscles. He need not go in for the rhythmical breathing necessarily, although even to him this second part of Śavāsana will be of great value in cultivating his mind. For a spiritual culturist the second part is of utmost importance. It prepares him for his Pranayamic exercises which come after Āsanās.

Śavāsana if rightly done is so soothing to the nerves that there is always a tendency to fall asleep during its practice. This tendency is to be checked very studiously, especially by a spiritual culturist who should never get into the habit of lapsing into sleep while he is concentrating his mind.

POINTS OF STUDY :—

(a) *Muscles* :—

Muscles work more efficiently because of their relaxation.

(b) *Blood-vessels* :—

Venous blood circulation is promoted throughout the body and thus fatigue is relieved.

Śavāsana is helpful in reducing high blood pressure.

Miscellaneous

RULES AND REGULATIONS FOR STUDENTS

GENERAL

1 No one will be admitted as a student to the Âśrama that does not come to it for spiritual evolution.

2 A studentship is available at the Âśrama only to those who look upon Yoga as a means to self-realization.

3 No male below the age of puberty and no female of whatever description will be admitted to the Âśrama as a student.¹

4 Moral excellence is an absolutely necessary qualification for being admitted to a studentship in the Âśrama.

5 No one that is suffering from a serious defect in the body or brain will be admitted to the Âśrama as a student.

6 Students who are still under the guardianship of an elderly person shall not be admitted to the Âśrama without the consent of their guardians.

7 Admission as students will be granted only to those who are either known to some one of the present inmates of the Âśrama, or to those who can produce satisfactory references from some respectable person of their place.

8 A probationary period of two to six months according to the discretion of the Director, is compulsory for every one before he is confirmed in his studentship.

9 Students when admitted will have to obey the discipline of the Âśrama in every detail.

10 Even a day's absence without leave from the Âśrama will be considered a serious breach of discipline.

11 This or any other serious breach of discipline will entail an immediate expulsion from the Âśrama.

¹ Howsoever anxious we may be to provide for the Yogic instruction of candidates of both the sexes, our present circumstances put the thing practically out of the question.

NO. 3 RULES AND REGULATIONS FOR STUDENTS

12 There are four types of studentship instituted in the Âśrama: (1) Short Period Paying Studentship; (2) Short Period Working Studentship; (3) Permanent Studentship; (4) Studentship Leading to Probation at the Academy.

13 No student falling under any of these categories will be charged any fees for Yogic instruction which will ever be given absolutely gratis.

14 Persons losing their studentship not for any serious breach of discipline, are not precluded from applying for a studentship again.

15 First two types of studentship are available even to married persons provided they undertake to follow the Yogic code of sex morality. The last two types are open only to celibates or to married men undertaking a lifelong vow of celibacy.

SHORT PERIOD PAYING STUDENTSHIP

16 Any one that satisfies the general conditions and undertakes to pay Rs. 35/- in advance every month for his actual expenses, will be admitted to the Âśrama for a Short Period Paying Studentship. The Director, however, reserves to himself the right of refusing admission to candidates and is not bound to explain reasons for such a refusal.

17 Short Period Paying Studentship is available for a minimum period of six months and a maximum period of six years only.

18 Should a candidate wish to stay in the Âśrama for a period less than six months or more than six years, he should do so either as a Visitor or as a Permanent Student respectively.

19 Not more than two months' leave will be granted to a student in a year, every time absence being allowed strictly on grounds of emergency.

20 Candidates that satisfy the general conditions but are not in a position to pay or being in a position, do not wish to do so, may be given Short Period Working Studentship in the Âśrama, provided they undertake to do such work in the Âśrama as may be assigned to them from time to time by the Director or in the absence of the Director by his representative.

SHORT PERIOD WORKING STUDENTSHIP

21 The character and amount of work will be such as will not interfere with Yogic practices of such students. But in times of emer-

gency they are expected voluntarily to look to the interest of the Âśrama even at some sacrifice of their Yogic studies, additional work put in under such circumstances being sure to help them in their spiritual evolution.

22 Candidates to be admitted to this class must not only be very sound in body and mind, but must possess intense hankering for spiritual evolution through Yogic life.

23 No candidate will get a Working Studentship at the Âśrama if he has completed his thirtieth year. The younger the candidate the more preferable he will be.

24 No candidate that has directly to shoulder any family responsibilities will be admitted to this class of studentship.

25 The Âśrama will be responsible not only for the boarding and lodging of the Working Students during their stay at the Âśrama, but also for the satisfaction of their ordinary wants as students of Yoga. Should a student, however, incur expenses even in the performance of his legitimate duties in other capacities, he should make his own arrangements to defray them.

26 Not more than one month's leave will be granted to a student in a year, every time absence being allowed strictly on grounds of emergency.

27 Working Studentship is available only for a minimum period of four years.

28 Students of this class must offer themselves as subjects for any Yogic experimentation that may be conducted on behalf of the Âśrama.

29 Those that begin their stay in the Âśrama as Working Students are not precluded from getting later on either a Permanent Studentship or a Studentship Leading to Probation at the Academy.

PERMANENT STUDENTSHIP

30 Permanent Studentships are available only to those that want to make Yoga their life-work, completely indentifying themselves with the Âśrama and its activities in the Yogic field.

31 Only those celibates that are from sixteen to twenty-five years of age and that have full confidence in their capacity to continue their chaste celibacy to the end of their life, will be admitted to this class.

32 Under exceptional circumstances even a married man may be admitted to a Permanent Studentship, provided always that the intending student takes a lifelong vow of celibacy and that his responsibilities are not such as would disturb him in his pursuit of Yoga.

33 Any family tie that would disturb an exclusive Yogic life will constitute a disqualification for a candidate of this class.

34 Permanent Studentship will be available only to those that have a special aptitude for Yogic culture.

35 The Âśrama undertakes to satisfy all legitimate needs of a Permanent Student while he is attached to the Âśrama.

36 Should a Permanent Student be a married man, the Regulating Council shall make provision for the maintenance of his immediate dependants, not more than three in number, when such a student is admitted to a membership of the Âśrama.

37 Such of the Permanent Students as are not taken up in the Kaivalyadhâma Spiritual Service, or being offered to be taken up in the Village Service, are not inclined to enter it, shall remain in the Âśrama as Student Members, this membership being available to them at the recommendation of the Director after six years of satisfactory Permanent Studentship.

38 Student Members will be bound by the same rules and regulations as the members of the Village Service.

STUDENTSHIP LEADING TO PROBATION AT THE ACADEMY

39 Such of the Permanent Students as are capable of being trained for the Kaivalyadhâma Spiritual Service, will be awarded this type of studentship. These students will have to put in one year of candidature before they are admitted to the Academy.

40 During the year of candidature, students referred to in the preceding section will obey the same rules and regulations as the Permanent Students.

Kuvalayânanda,

DIRECTOR, KAIVALYADHÂMA,

RUGNA-SEVĀ-MANDIRĀ

RULES AND REGULATIONS FOR PATIENTS

1 The Sevā-Mandira is a part of the Kaivalyadhāma. It is established with a view to find for the inmates of the Āśrama an opportunity to serve ailing humanity. It is desirable, therefore, that every gentleman coming to the Sevā-Mandira should, as far as possible, conform to the discipline of this place. No unholy act or word should disturb the peace of the Āśrama.

2 The Sevā-Mandira is strictly for vegetarianism. No non-vegetarian food or tonic would be allowed within the limits of the Sevā-Mandira.

3 Tea and smoke are entirely prohibited within the precincts of the Institution.

4 Following diseases are treated at the Rugna-Sevā-Mandira. Constipation, dyspepsia, general debility, seminal weakness, impotency (other than congenital), insomnia, nerve exhaustion, chronic headache, piles, heart disease (functional), asthma (certain types), obesity, diseases of women including sterility (particular types), etc., etc.

5 The Sevā-Mandira undertakes to treat only those chronic patients who are not confined to bed. The method of treatment is based on Yogic Therapy as it is being systematized by the Kaivalyadhāma.

6 If a chronic patient happens to develop any acute symptoms after his admission to the Sevā-Mandira, he will get competent medical advice and attendance *quite gratis*, although he will have to pay a moderate charge for the treatment he receives.

7 People suffering from contagious, infectious and venereal diseases are not admitted to the Sevā-Mandira. For the last class of patients Yogic treatment is not available. Patients of the first two types can be treated as out-patients at the Āśrama.

8 Indoor treatment is not compulsory for every patient that seeks relief through Yogic Therapy. Patients can make their own arrangements for boarding and lodging outside the Āśrama and come for treatment as out-patients.

9 There is no accommodation for females. They may, however, come for a few hours for consultation and also for instruction if so advised.

10 Clinical work is done from 8 to 11 a. m. Patients coming to the Sevâ-Mandira, later, have to wait up to the next morning for consultation.

11 To avoid inconvenience to himself and to the management of the Sevâ-Mandira, it is desirable that an intending patient should send beforehand precise information regarding the time of his arrival and the probable period of his stay.

12 Every patient that comes to stay in the Sevâ-Mandira even for a day is requested to have his own bedding.

13 Being a hill station, Lonavla is generally cool throughout the year. It is desirable, therefore, for every patient coming to the Sevâ-Mandira to have sufficient warm clothing with him.

14 Boarding and lodging arrangements are made available at the Rugna-Sevâ-Mandira. No separate cooking is allowed, however. Nor can the Sevâ-Mandira be used exclusively for lodging purposes.

15 Boarding and lodging are given free of charge for the first two days, to every patient coming to the Sevâ-Mandira. Should any one overstay this period, he is charged at Rs. 45/- per month from the date of his arrival for his actual expenses. These charges must be paid in advance.

16 The concession for the first two days is general. Should a gentleman, however, wish to pay even for these days, the money will be thankfully accepted.

17 No concession can be allowed to anybody absenting himself from the Sevâ-Mandira for a day or two. If, however, this period exceeds two days, he will be charged only eight annas per day for the period of his absence, provided he intimates the authorities beforehand.

18 The servants of the Sevâ-Mandira look to the ordinary needs of a patient. Should any one want special menial attendance, he must bring his own servant who will be charged for his actual expenses as well as his master.

19 Persons intending to leave the Sevâ-Mandira should kindly intimate beforehand the time of their departure.

20 The Sevâ-Mandira is being conducted with a religious sentiment. The management is, therefore, always anxious not to be mercenary. Gentlemen coming to the Sevâ-Mandira are requested to appreciate this attitude and not to introduce any unpleasant monetary discussions in their dealings with the authorities.

21 The Sevâ-Mandira is started to give facilities only to those patients who come to the Âśrama for Yogic treatment. It is hoped, therefore, that the facilities given here will not be used for any other purpose by looking upon the Institution either as a general sanatorium or health home.

22 As Lonavla records an average rainfall of 175 inches per year, practically all therapeutical work is suspended from the middle of June to the middle of October. Patients are, therefore, requested not to venture an expedition to this place during the months noted above.

23 Barring the days mentioned in the foregoing section, the Director stays at Lonavla from the 18th of every month to the 3rd of the next month. Patients are admitted to the Rugna-Sevâ-Mandira during the first week of the Director's stay at Lonavla.

24 Every patient gets advantage of the Director's advice and supervision during the fortnight he is at Lonavla. Afterwards the work of the Rugna-Sevâ-Mandira is conducted by the Medical Officer in charge the Rana Natavarsinh Clinical Laboratory, the Personal Secretary of the Director, and the Demonstrators working in the therapeutical department. The interests of the patients are scrupulously guarded even during the absence of the Director.

25 Although the Director tries his best to be present at Lonavla during the days fixed up for his residence there, at times he is unavoidably busy elsewhere. Patients are, therefore, requested to ascertain whether he is available for consultation at Lonavla, before they leave their places for the Âśrama. They should also know beforehand whether accommodation is available for them at the Rugna-Seva-Mandira.

NOTE—

Lonavla is a big railway station on the main line of the G. I. P. Railway running from Bombay to Poona some eighty miles away from the former. The Âśrama is situated at a distance of a little more than a mile from the station. Conveyances are always available at the station by day-time. Should a stranger, however, wish to walk down the distance, he can very easily do it, first by inquiring for the Bombay-Poona Road and then by tracing the Âśrama with the help of the signboards which are placed along the said road at convenient distances. Failing to succeed in this enterprise the pedestrian should turn to the local Post Office for more exact and detailed information.

MANAGER, KAIVALYADHÂMA.